Lectures
ON THE
VARIOUS FORMS OF HYSTERICAL OR FUNCTIONAL PARALYSIS.

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LECTURE III.

(d) *Cases of Paralysis due to Defective Functional Activity in some of the Outgoing Fibres from the Rolandic Convolutions.*

THE known forms of paralysis of functional type that can be referred to this region of the brain are very few. The region itself is of considerable extent, especially downwards, the fibres referred to being those which compose the pyramidal tract, so that the cerebral region is continuous with one that we shall subsequently have to refer to in the spinal cord. I have elsewhere proposed to speak of these fibres, and of all others that connect sensory centres with motor centres, as "internuncial fibres," leaving the term "commissural fibres" for those by which sensory centres are connected with one another, or for the fibres which similarly bind together for conjoint activity two motor centres. It is generally admitted, however, that the internuncial fibres in question pursue a long unbroken tract from the Rolandic convolutions downwards, partly to motor nuclei in the pons and bulb, and partly so as to terminate at different successive levels in the great cells of the anterior cornua of the cord. The internuncial fibres which transmit the incitations to movement from the Rolandic area down to the lumbar centres concerned with the movements of the lower limb, pursue, therefore, the longest course of all. Taking the different groups of fibres—those, for instance, which go to the bulb, those whose destination is the cervical swelling of the cord, or those which go to its lumbar enlargement,—it seems perfectly clear that the same kind of defect of function would in each case result from a lesion situated in any part of their course. If, for instance, an organic lesion or a functional degradation of some kind were to be established in the course of the fibres that transmit incitations to movement from the glosso-kinæsthetic centre in the third frontal convolution to the bulb, a group of symptoms should be produced by a lesion of these fibres just beneath the cortex, in every way similar to that which would be caused by a lesion to the same group of fibres (that is strictly limited to them) just before they reach the articulatory centres in the bulb. And, this being so, of course the same set of symptoms would characterise lesions limited to these fibres in any intermediate part of their course through the corona radiata and the internal capsule.

As to paralysis of the limbs due to functional defects occurring in the course of these internuncial fibres we as yet know nothing, whether in the way of the production of hemiplegias or of monoplegias. On the other hand, it is well known that organic lesions occur in the course of these fibres with extreme frequency, especially in that portion of their course where they constitute the internal capsule, giving rise for the most part to hemiplegias. All that can be said is that if paralyses of functional type should occur, due to dynamic defects in this region, we might have (according to the width or area of the functional defect) the coexistence of more or less facial paralysis with that of the limbs, together with more or less of defect in common sensibility. There would in all probability be no loss of muscular sense, and if so these conditions would be differentiated from those due to disease of the cortex. In both there might be slight increase of the knee-jerks and slight rigidity.

As I have elsewhere endeavoured to show,[1] aphemia is a kind of speech-defect which must be due to structural or functional degradation occurring in the course of the internuncial fibres that pass between the glosso-kinæsthetic centre in the posterior part of the third frontal convolution and the motor centres for articulation situated in the bulb. In this class of cases patients are absolutely dumb—that is, they are voiceless as well as speechless; but they understand everything that is said to them, and can express their thoughts perfectly and with unimpaired facility by means of writing. Their intellectual faculties are, moreover, quite unimpaired. Aphemia is clearly not a sensory defect—it is not a form of amnesia,—because the subjects of it can revive words in all possible modes, as is seen by the fact above mentioned that they are able to think and express their thoughts with an unimpaired freedom by writing, whereas in the aphasia which is due to disease of the glosso-kinæsthetic centre itself one of the most important word centres for the expression of thought is affected, and the power of thinking is to some extent impaired.

Aphemia, in the complete form above referred to, seems to be somewhat rare as a result of structural disease, though a few years ago I recorded what I believe to be a case of this type.[2] On the other hand, Charcot[3] and Cartez have shown that it is by no means uncommon as a functional defect, which the former has fully described under the name of "hysterical mutism." They have found that this group of symptoms sometimes exist alone, and at others in association with hemianæsthesia and other hysterical stigmata. The onset is often sudden after a fright or some other powerful emotion; or it may follow a hysterical seizure of some kind. The duration is very variable; it may be for some hours only, or the dumbness may last for weeks, months, or even years. Complete recovery, too, is often quite abrupt, sometimes after some strong emotion; whilst Dr. Ernest Jacob has recorded[4] two interesting cases in which such an aphemic condition was cured by putting the patient under the influence of ether. In one of these two cases the man had not spoken a word for five years, but having accidentally dislocated his shoulder ether was administered to facilitate its reduction, and Dr. Jacob says, "on recovering from the narcotism he began to speak clearly and volubly, evidently much pleased at recovering his power of speech, and determined to make up for lost time." The other patient, also a man, had been dumb for only five days; but, recalling the effect of the ether in the previous case, Dr. Jacob this time purposely had recourse to it as a remediable agent, with the following result: "After he had taken one or two breaths the inhaler was removed, and he articulated 'Yes' in answer to a question, and after recovery from narcotism could talk freely. He remained an out-patient for a few weeks, but there was no return of the dumbness."

We must not, however, conclude that all cases of aphemia, in which the duration of the condition is brief and the recovery more or less abrupt, are necessarily of functional type in the ordinary acceptation of the word. Some of them may, I think, be more fairly attributed to the existence of a temporary thrombosis, involving some of the vessels in the brain region in question. In illustration of this I would quote the following case.

CASE 4.—Henry C——, aged forty-four, a carpenter, was admitted into University College Hospital under my care on May 29th, 1890, suffering from complete loss of speech, and some difficulty in swallowing.—*History*: The patient had been at work on the previous day from 6 A.M. to 12 P.M., so that when he went to bed he was greatly fatigued. About 1.30 A.M. his dog barked; he got out of bed to speak to it, and found he was unable to do so. He then took a paper and pencil, attracted the attention of his wife, and wrote that he was unable to speak. He was brought to the hospital in the morning at 9 o'clock, when he was found to be still suffering from complete aphemia, though he could write fairly well, leaving out letters now and then. He was admitted as an in-patient; he felt in a sleepy state, and in the afternoon he went to sleep, and did not wake till 6.30 P.M. When he awoke he found himself trembling all over, but his power of speaking had returned. In regard to his previous health, the patient says that at the age of sixteen he contracted syphilis, and was treated for it. About one week before the present attack he had had a sudden feeling of giddiness while at work. He had been much exposed to wet and cold; he had always had plenty of good food, but had

[1] On Different Kinds of Aphasia &c. (Brit. Med. Jour., Nov. 5th, 1887).

[2] Loc. cit., Nov. 5th, 1887.

[3] Lectures, vol. iii. (Translation of Sydenham Society), 1889, pp. 360 and 410.

[4] Brit. Med. Journal, Sept. 13th, 1890.

been a rather immoderate drinker—of beer principally. He had not, however, been drinking at all to excess on the day on which he overworked himself or for several days previously.—*Present state* (taken May 30th): He has some dilated venules over the face, but is a fairly healthy-looking man. The arteries at the wrist and elsewhere are slightly thicker than natural. Nothing abnormal was detected in regard to the thoracic or abdominal organs. Temperature 99·2° (it was 99·4° a few hours after admission). Pulse 96; respiration 18. He has had no headache for the last twenty-four hours. There is now no difficulty in speaking or thickness of speech whatsoever. All the movements of the tongue are free and natural. The various reflexes of the limbs and trunk are natural, and no impairment of sensibility can be detected in any part of the body. He walks naturally; his grip is weak—right, 55; left, 45. There is some tremor present in both forearms, most marked on the left side. These tremors are exaggerated when he picks up objects. There are no tremors in the legs whilst he lies in bed, but on commencing to walk his legs begin to tremble.—June 2nd: He left the hospital to day well. His temperature was normal, as it had been for the last two days. All the tremor in his arms had disappeared, and there was no difficulty or hesitation about his speech. He took no medicines whilst in the hospital, except mist. gent. c. sodæ, ℥i ter die, and an aperient draught.

It seems quite possible that there may have been some thickening of arteries here, which, together with a feeble action of the heart induced by fatigue, determined a slight thrombosis, and that this condition after a short time became resolved. On the other hand, it must not be forgotten that in some of the functional cases recovery has taken place rather slowly and gradually, the first imperfect articulations being also of a stammering character. I may repeat, then, my belief that this form of speech defect may be produced by damage to efferent internuncial fibres in any part of their course from the left glosso-kinæsthetic centre to the articulatory centres in the bulb. The mental power in such patients is as clear and unaltered, and the power of writing just as perfectly preserved, as it may be in cases of bulbar disease where the motor articulatory centres themselves are the seat of lesion. I would also urge that the hysterical or functional cases cannot be caused by dynamic defects in the brain regions usually implicated in hysteria (that is, either afferent fibres or cortical centres), because no lesions of such brain regions would suffice for the production of the uncomplicated group of aphemic symptoms; such a state can, I believe, only be accounted for by a defect, either functional or structural, in the course of the efferent fibres from the left glosso-kinæsthetic centre.

A few words require to be said concerning mere voicelessness or aphonia. This is not to be confounded with aphemia, though it generally, in fact, constitutes a component of the aphemic state. A patient suffering from mere aphonia can speak in a whisper, simply because whispering does not necessitate the action of the adductor muscles of the larynx, and in aphonia it is these adductor muscles that are paralysed—that is, they cannot be made to move so as to take part in ordinary acts of articulation, though they are still capable of being called into action reflexly during the act of coughing. It is therefore the voluntary activity of the adductor muscles of the larynx that becomes paralysed in aphonia, principally in low states of the system under the influence of debility, or from previous over-exertion of the voice, or as one of the results of hysteria. It has been thoroughly ascertained by Semon and Horsley[5] that the movements of the larynx, and principally those of adduction, are represented in the cerebral cortex, the chief focus for the instigation of these movements being found in the base of the ascending frontal convolution, just where it becomes continuous with the posterior extremity of the third frontal. From this region efferent internuncial fibres have been traced through the corona radiata and the internal capsule to the bulbar centres. As to the part of this mechanism which is at fault in aphonia, whether the cortical centre or the internuncial fibres, there seem to be no facts at present in our possession to enable us to decide. The condition is, however, in the great majority of cases, clearly due to a mere functional defect.

Cases of Functional Paralysis of Spinal Type.

As I have already stated, a great deal of obscurity exists in regard to this part of our inquiry. The whole subject of the classification of functional paralysis is still in a very vague and ill-defined condition. The principal effort hitherto made seems to have been expended in arriving at the often difficult preliminary conclusion as to whether in the patient before us we have in reality to do with a case of hysterical or of functional paralysis or not. The recognition, rightly or wrongly, of the case as a hysterical affection has seemed to most even of our best observers to be a sufficient solution of the diagnostic problem; so that at most we find given more or less disconnected indications (apart from the recognition of hysterical stigmata) by the presence or absence of which we are to decide whether we have to do with a case of paralysis of functional type, and therefore in all probability curable (for that is, of course, the reason of the vast interest attaching to this problem), or with one due to some irremediable organic cause. The signs of a functional paralysis as contrasted with one due to organic disease are indeed commonly spoken of as though the former condition constituted a kind of entity one and indivisible, instead of a whole series of states with varying characters, according as this or that portion of the brain or spinal cord may happen to be the seat of a functional disability. Some appear to think (as their language seems to imply) that all cases of paralysis not due to a structural cause must be of a hysterical order, and as they believe hysteria to be due to a perverted activity of the brain, it perhaps never occurs to them to consider whether some of the cases of functional paralysis coming before them may not have their origin in a depressed or perverted activity in some portion of the spinal cord. For one or other of these reasons it happens that up to the present time almost nothing has been said upon this subject, so that no definite rules of any kind are laid down in our text-books to help us in distinguishing spinal from cerebral cases of functional paralysis. I am free to confess that this subject has only comparatively recently engaged my own attention, and that what follows is to be considered as a somewhat crude and tentative introduction to a department of medicine in which more advance ought to have been made, and to which I hope it is only necessary to call the attention of observers in order speedily to bring about a distinct increase in our knowledge. This subject has been in a measure forced upon me during the last two years, more especially owing to the fact of my having had under my care several cases of paralysis, some of which are about to be recorded, the exact nature of which has proved a very difficult problem to resolve.

From the point of view of the production of motor paralysis we may have originating in the spinal cord cases of functional paralysis of two distinct types, which deserve to be separately considered — namely, (*a*) those of a spastic, and (*b*) those of a flaccid type. The cases of spinal origin mostly belong to one or other of these categories, though occasionally cases present themselves that are partly of spastic and partly of flaccid type. It may be said at once that these two types correspond with a perverted or depressed activity in one or other of the two definite regions of the cord which have to do with the manifestation of voluntary movements; the spastic type, for instance, corresponds with a diminished or perverted activity in some part of the course of the pyramidal system of fibres, while the flaccid type would correspond with a diminished activity in the groups of great ganglion cells situated in the anterior cornua. Some probable instances of these two types of functional paralysis of spinal origin will now be cited.

(*a*) *Cases of the Spastic Type, due to Functional Perversion or Defect in the Pyramidal System of Fibres in the Spinal Cord.*

When speaking of the last type of the cerebral cases—viz., the forms of paralysis due to defect in the internuncial fibres starting from the kinæsthetic centres in the Rolandic convolutions—we had to consider the effect of lowered functional activity occurring in the upper or cerebral part of the pyramidal system, the fibres of which (so far as they are concerned with movements of the limbs and trunk) are continued without any break in their continuity into the opposite anterior cornual grey matter of different segments of the spinal cord. It must be recognised that in regard to these fibres, so far as we have any positive knowledge, no appreciable differences in result would accrue from their implication in different parts

[5] Philos. Trans., vol. clxxxi., 1890, p. 187.

of this course—that is, that the same result to limbs or trunk should be produced by the affection of corresponding constituents of the pyramidal system, whether the alteration in their functional activity is brought about in the cerebral or in the spinal part of their course. Although probable, this must not be taken as absolutely established. It is, in short, just possible that these fibres may, as they pass through the pons Varolii, be in some way brought under the influence of the cerebellum through its middle peduncles; so that, as a matter of fact, injury to the pyramidal fibres in the spinal part of their course may cause somewhat different results from what would have been produced by a similar degree of damage to the same set of fibres above the level of the pons. One kind of difference which clinical facts seem to suggest as possible is that there should be, as a result of damage to the pyramidal tract in the spinal part of their course, a greater intensity in the spastic symptoms—that is, more rigidity and a greater exaggeration in the deep reflexes. But even if such a difference exists, there is no reason for thinking that the results would not, other things being equal, prove similar in kind for injury to the pyramidal fibres at different parts of their course through the spinal cord itself.

Hypertonic paresis.—To a slight or early stage of a functional defect in some part of the pyramidal system Dr. Hughes Bennett has already called attention in a valuable communication to the Neurological Society. "In this condition," he says,[6] "the only complaint made by the patient is of motor weakness, and the only objective sign discoverable by the physician is excessive muscular contraction on percussion." The most ordinary seat of the affection is the lower extremities. It usually begins in one leg, and sometimes, though rarely, remains limited thereto. Coexisting with motor weakness of varying degrees, we find also in different cases variations in intensity of the objective phenomena. "The response of the muscle to percussion is increased, and the tendon phenomena are exaggerated. Every degree of exalted action may exist, from the slightest elevation impossible to differentiate from health, to the most extreme demonstrations of muscular excitability. In advanced cases trepidations and cloni may be produced in various situations, especially at the ankle and knee. These, however, are usually absent or only imperfectly developed."[7] After variable periods such a condition may entirely subside, so that the patient completely recovers; in others a comparatively stationary condition has been maintained for many years. These signs and symptoms are clearly similar to those which constitute the first stage of a spastic paralysis due to a primary sclerosis of the lateral columns of the cord. But in these cases of "hypertonic paresis," as Dr. Bennett proposes to term the affection, the symptoms do not seem to advance in the limb or limbs first affected beyond a certain degree of severity, although in the worst cases the morbid condition may spread from one limb to the other, till at last the entire body is affected. Dr. Bennett says,[8] "I have myself never seen a case such as has just been described afterwards pass into one of typical spastic paralysis with its characteristic rigidity of muscle," and this applies even to cases which he has had an opportunity of watching for five or six years. Nevertheless, this is a moot point which must still be considered to remain open. As to the seat of the functional change, also, in this class of cases nothing definite is known; such a combination of symptoms might be produced by a diminution in functional activity in any part of the course of the pyramidal system of fibres; or, on the other hand, it might possibly be due, as Dr. Bennett is rather inclined to think, to some unduly irritable condition of the anterior cornual cells in which such pyramidal fibres terminate. This latter explanation seems to me rather less probable, because it does not so adequately account for one-half of the symptoms—viz., the paresis—as it does for the other.

I now give the notes of a well-marked case of spastic paralysis of an obscure order which I am inclined to regard as dependent upon a functional perversion and defect in the spinal cord.

CASE 5.—Rachel W——, aged twenty-two, single, was admitted into the National Hospital for the Paralysed and Epileptic under my care on March 25th, 1891.—*History*: Four years ago the patient first noticed weakness in legs, difficulty in stooping, pain in the back, and difficulty in getting upstairs. Twelve months afterwards she went into the Norwich Hospital, and was there fitted with a jacket. She says her spine was "grown out" at this time, and she could feel a lump in her back (pointing to the mid-dorsal region as its site). She could not walk without assistance. She improved while wearing the jacket, and became able to walk by herself. Her gait was shuffling, and she says that even at this time she was apt to fall when lifting one leg. She continued fairly well till one year ago; then became worse; her legs grew weaker and "drew up," so that they were permanently flexed, and she was unable to walk. The right leg was the first to become affected in this way. Retention of urine occurred about the same time for two or three days, never incontinence. The bowels became obstinately confined, and the legs used to "kick about" during the act of defecation. Has had a tight feeling around the abdomen for nearly a year, and attacks of vomiting lasting two or three days, during which she was sick after everything taken. Three months ago the legs became flexed at the hips and knees, the right leg more than the left. They were placed on splints and have remained straight since. the splints having been kept on for about six weeks. Retention has been more frequent lately, always relieved by hot flannels; has never had a catheter passed. The girdle pains now come on every few days; formerly they would occur at intervals of some weeks.—*Previous and family history*: Had rheumatic fever six years ago, and again five years ago; no other illnesses. No neurotic history, but two brothers and one sister died from "consumption"; two brothers alive and well.—*Present state*: Fairly healthy-looking girl. Face symmetrical and its movements natural; sensibility normal. Movements of eyes natural, except some slight weakness on lateral movement to the left. Pupils large, equal, react well to light and accommodation. Optic discs natural. Tongue protruded naturally, indented, slightly furred. Throat natural. All movements of neck naturally performed, though somewhat slowly. Arms: movements naturally performed; grasp feeble. Dynamometer: right 8, left 8 (with a very rigid instrument). Sensation natural. Back: There is no distinct prominence of spines in any region. The sixth and seventh cervical and the first dorsal are slightly more prominent than natural, and the patient complains of pain there on pressure, but with a hot sponge or with percussion over the vertebræ the pain does not seem to be increased. The patient complains of pain all along the vertebral column on pressure. Examination of the chest showed nothing unnatural about the lungs, but revealed the existence of a systolic mitral murmur, together with a slight thrill over the apex. Abdomen: The patient complains of pain on pressure over the abdomen, most in the right and left hypochondriac regions, but also over the left ovarian region. The abdominal aorta is easily to be felt pulsating. The tympanitic resonance of the stomach is increased. Nothing abnormal is to be felt. Legs: No marked wasting of muscles. The legs are extended and rigid, the foot being in the position of equinus, the tendo Achillis being tense. The thighs are adducted. The patient is only able to move the legs to a very slight extent, being unable to flex them. On being asked to move the legs the extensors contract, and a very slight movement takes place. There is also slight power of adduction. The patient complains of great tenderness over the legs, especially over the back of the thighs and calves of the legs. The legs can be flexed to a slight extent, but during flexion and even on raising either leg a clonus of the whole limb takes place. The adductor spasm can be overcome by steady traction. Sensation seems normal except for the hyperæsthesia on the back of the leg. Reflexes: The plantar are present, but not active; the knee-jerks are exaggerated; ankle clonus cannot be produced owing to the spasm and condition of equinus, but a clonus of the foot is easily obtained by the slightest pressure on the sole of the foot. A clonus can be produced in the big toe, and also in the quadriceps extensor of the thigh. Urine passed naturally except once since admission. Motions passed naturally, but bowels very constipated. Electrical reactions: There is diminished reaction to faradaic and galvanic currents, but K C C is greater than A C C. Ordered ol. morrh. et vin. ferri, āā ℥i., ter die. — April 10th: Patient's general condition continues much the same. Careful testing of different modes of sensibility yielded the following results:—Light touches are felt and appreciated correctly everywhere. Heat and cold: The patient is unable to appreciate heat and cold all over the legs and to a

[6] Brain, 1888, p. 292. [7] Loc. cit., p. 291. [8] Loc. cit., p. 296.

variable extent over the abdomen and back. The appreciation is correct over hands and arms. Painful impressions are not felt as such over the legs, and to a variable level over the chest and abdomen, but are rightly appreciated over the arms and face. Muscular sense could not be properly tested owing to the rigidity of the legs, but patient says she has, with eyes closed, a distinct sense of the existence and position of the legs, though not so perfect as for arms.[9] There is still the same kind of tenderness of the lower extremities as before.—28th: Having suffered for some days from pain after food, the patient yesterday vomited at 7.30 P.M. a considerable quantity of blood mixed with food. ℞ Bismuth. subnit., gr. x.; sod. bicarb., gr. x.; sp. chlorof., ♏ x.; aq., ʒ i.: ter die.—30th: Vomited again at 5.30 yesterday a considerable quantity of blood mixed with food. Has some tenderness at epigastrium.—May 29th: The patient was put on nutrient suppositories on April 30th, after which vomiting ceased, and her general condition improved. Milk was given on May 4th, but vomiting recurred. On the 12th was taking milk with Brand's essence, and continued fairly well without sickness till yesterday, when she again vomited. During sleep the legs are not so rigid as when awake.—June 3rd: Application of wire-brush to lower extremities was ordered. — 25th: General condition much improved. No vomiting. Condition of legs practically the same as on admission; is still unable to move them, and on attempting to do so clonus is produced. Tenderness of legs on pressure. Sensibility to touch still normal. Complains of pain in the back, worse at night. Right 18, left 20 (with same rigid dynamometer). Marked flushings of face and neck have occurred occasionally since her admission, and still continue. No distinct and persistent tâche produced by drawing nail over skin of chest or abdomen. Constant current from about fifteen cells to be run through spine three times a week, and on alternate days she is to have a sulphur bath.—July 31st: Patient is now distinctly better. The rigidity of the legs is notably less; and trepidation is not produced by handling them as before, though ankle-clonus is still very distinct on both sides. She can now move the toes of each foot distinctly and bend the knees slightly, also without causing trepidation. The pain in the head has ceased, and that in the back is rather less.

This is in many respects an obscure case. It seemed evident on admission that the girl had some years since, when she first began to complain of pain in the back and weakness of the legs, been treated for spinal caries. On examination, however, no irregularity of the vertebral spines or other definite evidence of spinal caries could be made out, although the form of spastic paralysis from which the patient was suffering undoubtedly presented certain alliances with the form of paralysis that commonly goes with Pott's disease. Still, the fact that there is with these well-developed spastic paralytic symptoms (including considerable impairment of sensibility) no evidence of vertebral or other disease that could cause slow compression of the spinal cord, coupled with certain characters of the paralysis itself (especially the high degree and persistence of the spastic symptoms) made it seem very improbable that it was a case of this nature. It was soon deemed, indeed, to be a case of functional spastic paralysis; and I take the view that it is of spinal rather than of cerebral type mainly because of the absence of distinct impairment of muscular sense in the legs, which, with such an amount of paralysis as exists here, ought to have been marked if the paralysis had been due to a functional defect in the Rolandic convolutions in relation with leg movements in the two hemispheres. I am also influenced by the fact that the considerable impairment of sensibility which exists is limited to the lower extremities and to the trunk, and that even there the power of accurately localising touches exists, instead of referring them too high, as in cases where the impairment of sensibility is due to defect in the Rolandic convolutions (Horsley).[10] It so happens that I have at present under my care in the same hospital a young man who is suffering from an almost complete softening in the dorsal region of the cord sequential to spinal caries with a marked angular curvature, and that in this case, but for the fact that the loss of sensibility is much more marked and the motor paralysis is more absolute, the condition of the lower extremities accords pretty closely with that existing in the girl whose case is above recorded. Another very important difference, however, exists in regard to the sphincters and control over the evacuations; there is no incontinence with the girl, whilst this is complete in the undoubted case of organic disease. Then, again, another fact had to be taken into consideration. The girl had on a previous occasion been unable to walk without assistance, and had perfectly recovered for some time previous to the commencement of her present illness twelve months ago. During her stay in the hospital all active treatment for the paralysis had to be suspended for nearly two months, after the vomiting of blood and constant sickness, so that not very much progress has yet been made in the cure of her paralysis.

Cases of spastic functional paralysis of hemiplegic type are also not unfrequently met with, but these in my opinion are almost always of cerebral origin. They are associated with hemianæsthesia, and are marked by loss of the muscular sense, as in my Case 2. As was long ago pointed out by Charcot,[11] this form of paralysis often sets in abruptly after a convulsive seizure, and after lasting a variable period, often many years, it may disappear as abruptly, either during another convulsive seizure or under the influence of some very strong emotional disturbance. Charcot expresses also a very strong opinion that in those cases of spastic paralysis which last over a series of years, whether they be of hemiplegic or of paraplegic type, there ultimately supervenes an actual sclerosis in one or both lateral columns of the cord.[12] It seems to me not quite clear why in certain cases of functional paralysis of cerebral origin we should get a completely flaccid form of paralysis, and in others a paralysis associated with marked rigidity, unless, as I am strongly inclined to think, there is in this latter type an extension of the functional disability from afferent fibres and cortex (to which it is generally limited) so as to involve also the efferent fibres from the kinæsthetic centres—probably in the cerebrum, though possibly in some portion of the opposite lateral column of the spinal cord.

Sometimes, however, we have to do with a spastic paralysis of a monoplegic type, and of this the following case is an example.

CASE 6.—Edith Jane E——, aged fifteen, was admitted on April 21st, 1890, into the National Hospital for the Paralysed and Epileptic, under my care, suffering from contracture of the left lower extremity.—*History:* For five years she has suffered more or less pain in her left leg, which was supposed to have followed on an attack of rheumatism. The amount of pain in it has varied from time to time. She says she has never during this period been able to walk without a perceptible limp, because she never could get her heel down upon the ground. During the last year she has also had weakness and pain in the right arm; and for the last nine weeks she has had much pain in her back, necessitating her remaining in bed, the attacks coming on nightly at about 8.15. She still frequently has pain in the left knee and hip, and is unable to get the heel down to the ground. Has frequent attacks of loss of voice. No trouble with choking sensations. Her past history in other respects had always been very good. No serious illness at any time. Never had fits of any kind.—*Family history:* Father and mother alive and healthy; five brothers and three sisters, all alive and healthy.—*Present state:* A pale, somewhat feeble, and anæmic-looking girl, complaining of pain in the back and inability to put the left leg straight. Face: Nothing unnatural. Tongue protruded straight. Palate normal. Occasional attacks of aphonia. Arms: No paralysis, no tremor, no anæsthesia. Legs: As she lies in bed the left leg is flexed at the knee and also at the hip. On trying to overcome the contraction there is great resistance; this can be overcome, however, after considerable difficulty, so that the leg can be straightened perfectly. The movement at the different joints then seems to be free, though very weak. During the manipulation the patient sighs and makes some fuss, but it is evident she does not suffer distinct pain. There is no wasting of either leg. No anæsthesia. Knee-jerks present, active, and equal. No ankle-clonus; plantar reflexes very difficult to obtain. Spine: Complains of pain in the lumbar region of the spine;

[9] In cases where the muscular sense is lost or gravely impaired, patients will give a very different answer to such a question. They will say that they have no sensation of the existence of the affected limbs, and are consequently unable to state their position—as in a case of locomotor ataxy recently under my care.

[10] The Nineteenth Century, June, 1891, p. 865.

[11] Leçons sur les Malad. du Syst. Nerveux, t. i., 1872, p. 208.

[12] Loc. cit., p. 316.

there is some tenderness also to pressure or percussion, but there is no prominence or irregularity of the vertebral spinee. Heart and lungs: Nothing unnatural. Abdominal organs showing no signs of disease. Ordered, mist. quin., ℥i., ter die; and pil. col. et hyoscyam., gr. v., p.r.n.—April 29th: Patient was got up to-day. Great apparent difficulty in getting the left leg straight and the foot to the ground. Gradually walked somewhat better with assistance, which was then little by little withdrawn. Then she walked alone in a somewhat unsteady fashion, but she did not fall, and as she went on her walking improved. To have a tepid needle bath daily; also ferr. amm. cit., gr. iv.; liq. strychn, ♏ iij.; liq. arsenicalis, ♏ iij.; infus. aurant., ℥ i., ter die, post cibum; with ol. morrh. et maltine, ää ℥ i., bis die.—May 17th: After last note was made the patient got up daily. There was no recurrence of the contracture, and no tendency even to walk unsteadily. Her general health improved. The nightly attacks of pain ceased on the first administration of bromide, and did not return. (She had been ordered pot. brom., gr. xxx., at 6 P.M.) Discharged to-day.

Here we had to do with spastic symptoms of rather long, though of somewhat uncertain, duration, in a delicate and anæmic girl, which rather rapidly subsided under firm moral treatment. It will be observed that there was the same complaint of pain, with some amount of tenderness over a portion of the spinal column, which is so common in these cases of functional paralysis or spasm, more especially when of spinal type. The nightly paroxysmal pains in her back, said to have been of nine weeks' duration, and on account of which she had remained in bed, ceased even more rapidly after a single strong anticipatory dose of bromide of potassium had been administered.

The Harveian Oration

(SLIGHTLY ABRIDGED)

ON

HARVEY IN ANCIENT AND MODERN MEDICINE.

BY W. HOWSHIP DICKINSON, M.D., F.R.C.P.,

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IN submission, Mr. President, to your behest, but with sore discouragement when I call to mind the names of some of the 172 Fellows who have preceded me in this office, it devolves upon me to-day to exhort the Fellows of this College to concord; to commemorate by name our benefactors; and to exhort our Fellows and Members "to search and study out the secrets of nature by way of experiment." As to the first injunction, a general change in manners has made it less necessary than formerly; we no longer wear swords or use them, our language is more conventional and less emphatic, and there are fewer differences of opinion where all are better informed. As to the second, though there is no reason to think that Harvey meant the address to apply especially to himself, or be a repeated tribute to his own memory, yet in commemorating our benefactors it is not unreasonable to speak in particular of the greatest of them, one who was a benefactor not only to the College, but to the race. And as to the third, the results of Harvey's work will, without any special exhortation, speak sufficiently in commendation of his method. Therefore I propose to make Harvey the subject of my discourse, and if I say again what has been better said before, my excuse must be that on so familiar a topic there can be little of novelty. Custom has sanctioned the use of this opportunity for the discussion of matters, often of the highest interest, but only remotely connected with Harvey or the purpose of his bequest. I shall not presume thus to wander, but gladly avail myself of the restrictions of a trodden path and a limited scope.

[Having given some account of the period during which Harvey lived and of his personal history, the lecturer proceeded:—]

In Harvey's time, as at the time of Galen, spirits were active in the human economy. There were three—the natural, the vital, and the animal. We hear of spirits even now; but they are irregular practitioners, without any recognised place in our philosophy. Up to Harvey's time spiritual essences, not implying the supernatural, but only aerial or gaseous, played a part which we now attribute to the blood in its liquidity. We can discern a sort of forecast of oxygen obscured in the old phraseology. The vital spirits were brought to perfection in the left ventricle from materials, air in particular, obtained from the lungs. As "the fountain and workshop of the vital spirits," the heart was the origin of vital heat and of the affections and emotions. From the left ventricle the vital spirits, together with blood, were conveyed by the arteries to the organs and tissues. But not only was the aerial element derived from the lungs, but the arteries also obtained air from the surface of the body generally, and discharged thence fuliginous vapours. Against this Harvey urged the impossibility of any such cutaneous respiratory process in the fœtus *in utero*, and in animals whose lives were spent in water.

Theories of vital spirits as directly connected with the mind, their origin in the heart, and the heart as the centre of emotion and character, still hold place in literature and conversation. We read without surprise that among the exhilarating effects of the apple Eve attributed to herself "dilated spirits, ampler heart;" but when so modern and scientific a poet as the Laureate refers to the human heart as "the holy secret of this microcosm," we cannot but question whether the description would not better suit the brain, which, to quote the physiology of an older poet, "some suppose the soul's frail dwelling-house." That Tennyson meant the heart in a literal and anatomical sense is evident from his speaking in the same passage of dabbling the hand in it. Such expressions as "high spirits," "low spirits," "warm-hearted," "cold-hearted," "chicken-hearted," and the like are still common in our talk. We still speak of a man as "having his heart in the right place," as if we took our anatomy from a source older than Galen or Aristotle: "A wise man's heart is at his right hand, but a fool's heart at his left."[1] Thus, our language is behind our knowledge by hundreds, even by thousands, of years. Cæsalpinus (1569) was apparently aware that the blood left the heart by the aorta and returned to it by the veins, passing as he thought by anastomoses from one set of vessels to the other, and re-entering the heart by the vena cava; but he supposed that spirit and blood made their exit from the heart chiefly during wakefulness, while the return was during sleep, and he repeated with strange confusion the old comparison of the movements of the blood to the ebb and flow of the tide in Euripus.

Before Harvey there appears to have been some difference of opinion as to whether the heart was muscular, but it was generally believed that the active agent in moving the blood was the act of respiration. Thus, although Harvey found the pulmonary circulation ready to his hand and the term "circulation" already attached to it, the course of the blood in the general system was so confused with tides and spirits, so destitute of any rational explanation of how the blood which left the heart got back to it, that, as he tells us, he was almost tempted to think with Fracastorius that the motion of the heart was only to be comprehended by God. That it was eventually comprehended by Harvey was due in part to the steps already made which helped to give him his standpoint. The hour was come as well as the man. While we give him his meed, let us not omit the honour due to his predecessors, especially Servetus and Fabricius—to the one for his deduction with regard to the pulmonary circulation, to the other for his accurate observations concerning the valves of the veins. To recognise the magnitude of Harvey's discovery we must look at it from the latest attainable point of view; test it by the knowledge of the present day, whether it holds its ground; and what are its issues and results. I propose thus to examine a discovery of the seventeenth century in the light of the nineteenth, not touching its truth, which is unnecessary, but in regard to what has sprung from it; to judge of the tree by its fruit. If the spirits of the wise, as they sit in the clouds, look down upon us with any recognition of what we are about, they can scarcely be indifferent to our estimation of their earthly labours. When we confirm their work and build upon their foundations, we appeal to the last infirmity of noble mind. We can imagine Dalton

[1] Ecclesiastes, x. 2.

looking with placid satisfaction upon the superstructure which has been raised upon the atomic theory scarcely less than the whole of analytical chemistry; we can imagine Newton as regarding with tranquil approval the marvellous illustrations of his law of gravity furnished by modern astronomy; and we can fancy Harvey as following the development of his discovery with an acquiescence which I fear he would not extend to the attitude of modern politicians with regard to his method. We can conceive Harvey as viewing with special regard those who have been most active in carrying on his work—Malpighi, Laennec, Hope, Williams, Corrigan, and I could add the names of some of our living Fellows were it not possible that they may be present to-day.

The immediate effects of Harvey's discovery were not beneficial to medicine, and were injurious to himself. "His practice fell off mightily," and practical medicine remained what it was before. This lack of early result has been more than once noticed by my predecessors.[2] Two observations apply to this discovery and to many others. First, practice advances independently of science, and often anticipates its conclusions. Secondly, what has been established by practice will hold its ground after the introduction of scientific knowledge by which it should have been abolished. Of practice, which goes before theory, we have many examples. Suction pumps, as Sir George Paget observes, had been at work for hundreds of years before Torricelli showed the true cause of the suction. Gunpowder was invented by an ingenious ecclesiastic five centuries before anything was known of oxygen, carbon, or the laws of combustion. Thus, before the circulation was understood, not only was venesection in use, perhaps obvious in any case, but the arm was constricted above the puncture, with results which would seem to hint at return by the veins. Transfusion of blood, which should require some knowledge of its course, was certainly[3] practised in 1615, if not earlier.

As to the persistence of old practices after advancements by which they should have been set aside, it is easy to find examples in medicine and elsewhere. Christians were buried with a coin in their mouths long after the ferryman had ceased to demand the toll. The doctrine of signatures continues to guide popular medicine, and even with the learned infusion of roses still holds a place. We still sometimes apply local bloodletting, as did our fathers, who knew nothing of the circulation and little of the course of the vessels. The practice of the second century and of Aretæus is still occasionally seen in the leeching of the hypochondrium to deplete the liver, though there is no way through. With the same adherence to tradition and neglect of anatomy, we still cup the back to deplete the lung. We cup the loins to relieve the kidneys, and if we succeed in finding a few insignificant vessels connecting the capsule with integument, we rejoice over them and flatter ourselves that we are the disciples of tradition and science too. Dry-cupping, not without its uses, though not always applied with due regard to anatomy, furnishes another instance of a practice which has survived the theory on which it was based. It apparently had its origin in the ancient belief that the arteries contained spirit which could transpire by the skin. Ambroise Paré quotes with approval the discrimination of Celsus: the cupping-glass draws blood if the skin be first scarified, "but if it be whole, then it draws spirit."

To come to the results of Harvey's work, the first in time and in importance was the completion of it by the discovery of the capillary system by Malpighi, who was born in the year in which Harvey published his famous treatise. Harvey had never seen a capillary, nor did the state of the microscope in his time allow of it. He was fain to conclude that the blood passed from the arteries to the veins, partly by anastomoses, but mainly by percolation, as water, to quote his own illustration, percolates the earth and produces springs and rivulets. Had it been possible, we may imagine the delight with which he would have witnessed the completion by vessels of his circular route. For a time the interest was for the curious, but wide and practical issues were wrapped up in it, some of which it will be my later endeavour to unfold. The first improvement of immediate utility, so far as I can learn, which was the direct result of Harvey's discovery, was not made until more than half a century after his death in the invention of the tourniquet, by which arteries were compressed as distinguished from the veins. Then comes John Hunter's operation for aneurysm, tying the artery between the sac and the heart. Then, to take no note of lesser advances, auscultation comes into view. This, so far as concerns the inside of the heart and endocardial murmurs, implies a knowledge of the course of the blood, and could not have arisen without it. That the heart made sounds was an observation familiar to Harvey. The comparative recency of auscultation is almost a surprise, considering how large a proportion of our present medical knowledge is connected with it. Laennec's first memoir on mediate auscultation was published in 1818, within the lifetime of some of our present Fellows. How great has been the pace since; how great the multiplication of knowledge or of its semblance! But much as we know about cardiac murmurs, it is possible that we do not yet know all. There is one whose note has in it something of discord. All are agreed as to the change which it denotes, but not quite all as to the way in which it is made. Next, as a direct result of the knowledge of the course of the blood, comes that of the course of emboli—knowledge now in such habitual use that we scarcely realise that it is not fifty years since embolism became known. To recognise its value it is only necessary to look at the brain and the writings of so great an observer as Abercrombie. How confused and inadequate are these, wanting the key which embolism gives! The theory of uræmia, somewhat of older date,[4] is the only advance of modern times which can compare with this in the light it has thrown into the recesses of cerebral pathology. As a corollary to embolism comes a special form of it known as pyæmia, too well known before under other names, but not understood. Another Harveian development—if I may be allowed the expression—has no narrower limits than the whole extent of inflammation, or at least as much of it as concerns the capillaries. Suppuration, in particular consisting of the transit of corpuscles through their walls, is a simple pathological sequence of the theory of the circulation. John Hunter nearly predicted this recent advance when he said that pus was something separated from the blood in its passage out of the vessels, thus tracing the discharge to the blood, not, as continued to be thought long after his time, to the tissues.[5] Now the scope widens and becomes too large for detail, for the whole of the vaso-motor system is opened to our view. Harvey ascribed the same motions to the arteries as to the heart, attributing to them a systole and diastole from powers inherent in their coats.[6] Were I to look only at a portion of the field presented, and dwell upon the changes in the heart and arteries which Bright in part discerned, and which Johnson, Gull, and Sutton have done so much to amplify and elucidate, I should find enough to show that Harvey had worthy successors in his own College, though time would permit me to do little more. But I should at least show that the torch which Harvey lit was still being carried forward, and into dark places which he never dreamed of.

Hitherto I have kept, as I proposed, to beaten tracks; if I now for a short time leave them in the endeavour to carry a dim spark for another stage, I can but hope that my light may not prove to be of the nature of an *ignis fatuus*. I propose to touch upon dropsy as connected with the Harveian scheme. It is not needful to remind this audience that many forms of dropsy are simple consequences of impediments to the circulation, and require nothing more than a knowledge of the course of the blood for their complete explanation. Fluid accumulates behind an obstacle, and when we know where this is, and by what route the blood comes to it, the process stands revealed, whether we have regard to ascites from portal obstruction, or general dropsy from cardiac embarrassment. Harvey's law has made simple what without it would be incomprehensible. But I will adventure further, and endeavour to show that renal dropsy, generally credited with a totally different mode of production, has its association with those which are purely

[2] Harveian Orations, by Sir George Paget, p. 11, and by Dr. West, p. 45.
[3] Dr. J. W. Ogle, Harveian Oration, p. 110.

[4] The theory of uræmia appears to have been first propounded in the year 1833 by James Arthur Wilson in a paper, read at the College of Physicians, on Fits and Sudden Death in connexion with Disease of the Kidneys (see London Medical Gazette, 1833).
[5] President's Address, Path. Trans., vol. xl., p. 3.
[6] "We do not, therefore, deny everything like motion to the tunics of the arteries; on the contrary, we allow them the same motions which we concede to the heart—namely, a diastole and a systole in return from the distended to the natural state. This much we believe to be effected by a power inherent in the coats themselves." (Harvey's Works, Sydenham Society, p. 113.)

mechanical, and is connected with the attitude of the blood-vessels as well as with the chemistry of their contents. Some forms of dropsy are obviously connected—and others perhaps less obviously—with exaggeration of intravascular pressure. Increased pressure on the venous side gives lessened absorption; increased pressure on the arterial side should give increased transudation. Of the first condition we recognise examples every day in the common forms of obstructive venous dropsy, whether cardiac, portal, or femoral, and recognise at the same time that they are dynamical, not chemical. It will be my endeavour to show that renal dropsy is dynamical as well as chemical, that it is associated with arterial pressure as the others are with venous, as immediately, though not *ab initio*. A distinguished predecessor in this office spoke of renal dropsy as a result of osmosis, not of obstructed circulation, and of Graham's researches with regard to diffusion through membranes as chiefly concerned in its explanation; but I think I shall be able to show that, whatever may be said of the laws of Graham, those of Harvey are not to be left out of consideration. It may even appear that the force of the heart and pressure of the blood have more to do with this morbid process than osmosis or dialysis. It is probable that we have yet much to learn as to the passage of fluids through living membranes, and it would be presumptuous to assert that we know all about renal dropsy; but it presents such clear clinical relations with the physical conditions of the heart and vessels that these cannot be disconnected from it. Over-transudation, such as occurs in renal dropsy, may be hypothetically attributed to three causes—osmosis or dialysis, filtration from pressure, and, as Dr. Waymouth Reid would infer, an action on the part of the bloodvessels analogous to secretion.[7] With regard to the last process, it is probable that we shall hear more; the operations of Nature are not always simple. Where filtration ends and secretion begins would be a difficult question, if both are concerned. The secretive theory has been resorted to in consequence of the apparent inadequacy of osmosis to explain the phenomenon in question. But I think it cannot be doubted that the paramount agent in moving the liquids of the body, whether along tubes or through their walls, is pressure.

The following facts must be had regard to in any explanation of renal dropsy which the future may have in store for us. If we look at the character of the effusions in different kinds of dropsy, certain broad facts present themselves which appear to have significance with regard to their mode of production. The chief components of such effusions differ from each other as crystalloid and colloid: the salts crystalloid and highly diffusible, the albumen colloid and slightly diffusible, except under pressure. Under osmosis salts should transude without albumen, under pressure both together. Now whatsoever be the cause of the dropsy, the effusions in the same place are essentially the same; not without differences, but without any such differences as would seem to imply an essentially different mode of origin. The effusions vary much with situation, little with disease. Those into the serous cavities are always rich in albumen, those into the cellular tissue poor in albumen with equal constancy. The mineral salts vary scarcely at all. Thus the similarity of the effusions cannot fail to suggest that renal dropsy is made in much the same way as those which are obviously due to vascular obstruction. Osmosis, as measured by the salts, is nearly the same in the two kinds, while the albumen in both implies a process other than osmosis, which is certainly pressure in one case and may be so in the other. Any view, therefore, that renal dropsy is especially a result of osmosis must be abandoned, and our inquiries directed anew to the nature of the process. When renal dropsy sets in, the urine is usually below par, but the relation of dropsy with the quantity of urine is not constant enough wholly to explain the process. With obstructive suppression dropsy is usually totally absent, while it is frequently present under the diuresis of diabetes. Such facts must find their explanation in any adequate theory of such dropsies as are not coarsely mechanical; and I venture to submit that whether coarsely mechanical or not, modifications of blood pressure are largely, if not mainly, concerned in the dropsical process. Anæmia has been thought to be concerned in renal dropsy; but we often see intense and even fatal anæmia under the name pernicious without any such effusion, whence it may be concluded that anæmia alone is not enough to cause it. With obstructive suppression arterial tension, so far as can be learned by the finger, is conspicuously wanting, while death occurs by asthenia or syncope. Low blood pressure, with no dropsy where it might otherwise be expected, is at least suggestive of the need for more facts. In acute nephritis, where the urine is only scanty, not suppressed, we see high blood pressure, and together with this dropsy. Want of urine does not alone and of necessity cause renal dropsy; increased arterial tension would seem to be a necessary intermediary, at least of this variety of it. An increase of arterial tension beginning with the earliest stage of nephritis, accompanying the œdema, and increasing with it and the disease, has long attracted notice. I could, if it were necessary, adduce a large number of tracings in proof of this assertion, which I think will not be doubted. If further evidence be needed on this point, it can be found in perhaps the most conclusive shape in the hypertrophy of the left ventricle even in the acute forms of the disease.

After death, within ten weeks of the onset of acute renal dropsy, I have found decided hypertrophy both of the left ventricle and of the muscular coat of the arteries. Hypertrophy of the left ventricle has long been accepted, and hypertrophy of the arterial muscle must be equally accepted, as evidence of an obstacle ahead—in front, that is, of the major part of the arterial system, which on this evidence, as well as on that of the sphygmograph, must be overcharged and over-tight. The next question is where precisely is the arterial exit impeded, in the arterioles or in the capillaries? Upon this much turns. Renal dropsy, presumably, depends on excess of exudation, not deficiency of absorption; this can scarcely occur elsewhere than from the capillaries, whose walls alone are adapted to the process. If the primary obstacle is in the arterioles, as Johnson supposes, the blood must be in a measure shut off from the capillaries, the pressure on them reduced, exudation from them lessened, and the view of renal dropsy which I am about to submit abandoned. But the doctrine of capillary obstruction preponderates, and, to use a political phrase, holds the field. It has been urged that the capillaries are not muscular; on the other hand, it has been shown by Roy and Graham Brown that they are contractile; besides which we cannot doubt what has long been inferred, that the blood may acquire peculiarities which add difficulty to its transit. That the obstruction is beyond the radial artery is sufficiently proved by the fulness of that vessel; that the obstruction is beyond the minute arteries of the retina and the brain is shown by their often bursting from the pressure to which they are subjected by their contents. We have no choice but to go further and attribute the impediment to the capillary system, whether from change of blood *per se*, or from vascular contraction engendered by it. With stoppage in front and accumulating systolic force behind, increase of transudation would seem to be inevitable. Whatever be the nature of the hindrance in the capillaries, we may presume from the phenomena of inflammation that it is consistent with an increase of transudation from them. So far I have shown that the form and stage of renal dropsy under discussion is at least associated with what may be called the mechanics of the circulation, which are necessary corollaries of the simple laws which we owe to Harvey. Whether the increase of pressure is complicated with any such secretive process as Dr. Waymouth Reid infers must be left for the future, but the more simple action seems too obvious to be excluded.

Now let me turn to a later phase of renal dropsy in which also the action of the heart and arteries is to be reckoned with. As the hypertrophy of these structures increases, the effusion independently of medicine tends to lessen and disappear. It would almost seem that this hypertrophy, whether of the heart or arteries or both together, is the natural cure for the dropsical state. This at first sight is difficult to reconcile with the early increase of dropsy,

[7] Dr. Waymouth Reid, to whom I must acknowledge my obligations in several respects, has published a valuable research on Osmosis in the Journal of Physiology for 1890. In this he shows that the passage of fluid through animal membranes is influenced by many circumstances hitherto not sufficiently regarded. Among these the physiological condition of the membrane holds a prominent place. The transfer is influenced as he considers by the protoplasmic activity of the membrane, and is comparable to the act of secretion; it is influenced also by various toxic and medicinal agents, which depress or stimulate the vital activity of the membrane. It was not within Dr. Reid's purpose to compare the effects of pressure with those of osmosis, for which reason I have not given greater prominence to his inquiry.

together with increasing arterial tension; for now with advancing hypertrophy the tension becomes greater, but the dropsy less. The hypertrophy is little of the right ventricle, mainly of the left ventricle and the arteries, and appears to militate against the dropsy so long as the cardiac change is unaccompanied by dilatation. Whether the heart or arteries have the more to do with this mitigation must be taken into question. The arterial thickening cannot fail, so far as I see, to obstruct the access of blood to the capillaries and dam it back in the heart and larger vessels, with the result of increased tension and increased cardiac hypertrophy. Here comes in the stopcock action, and with it lessened capillary pressure and lessened exudation. Now let us glance for a moment at the left ventricle and the change of proportion which renal disease accomplishes for it. Look at the thickness and solidity of the wall and the comparative smallness of the cavity as yet undilated. Beside the obvious increase of contractile power which the increase of muscle entails, the expansile power must be increased even in a greater degree, since it must have to do not only with the thickness of the wall, but also with its extent; in other words, with the size of the cavity. The smaller the cavity in relation to the thickness of the wall the greater the rigidity of the chamber and its consequent expansile power. The suction thus exaggerated must tend to pump out the waterlogged tissues by drawing first upon the lungs, then upon the systemic veins and their tributaries. The hypertrophy of the right ventricle, so far as it goes, will also have an effect in aiding the circulation in the lungs and systemic veins, but it does not seem to go far enough to be of much use. It is worth noting, as bearing upon its nature, that renal dropsy, like cardiac, is acted on remedially by the horizontal posture; not only is the œdema moved, but often removed, and that, as we must infer, by reducing the pressure in the veins and capillaries of the dependent parts.

I now approach the last aspect of renal dropsy in relation to the circulation. After a time the hypertrophied ventricle begins to stretch, and then not only loses expansile power, but valvular adaptation. Dropsy reappears or increases, and is now as much cardiac as renal. Mitral regurgitation ensues through the widened orifice, though the valves may be healthy, and a murmur is often heard which may mislead the unwary as to the origin of the disease; and as a more striking consequence, pulmonary apoplexy with hæmoptysis presents itself as a direct and simple issue of the cardiac changes of advanced renal disease. Did time permit I could show by examples that this complication, so generally associated with disease proper to the heart, may be primarily and essentially renal, a result of the advanced granular kidney by way of vascular tension, cardiac hypertrophy, and cardiac detriment. The time at my command will not allow me to include in this consideration of renal dropsy that of lardaceous disease, which is far from simple. I hope to refer to this at some other time and place; but apart from this I venture to think that I have shown that the dropsy of kidney disease has an association with the dynamics of the circulation, which, though it may be less obvious and more complicated than that of cardiac dropsy, is not less real. All present themselves as connected with the movements of the blood, not in the remote or indirect manner in which almost every operation of the human body can be so traced, but under the immediate control of whatever impedes or adds force to the current.

I have finished, Sir, the honourable task which your kindness imposed upon me. If I have been wearisome in recalling much that is familiar, I have at least shown how much we owe to Harvey of what is now rudimentary and commonplace. Knowledge has been advancing since his time in many and independent lines; the achievements of Bell, Bright, and Addison had no direct connexion with his, but it is not too much to assert that the medicine of to-day is scarcely less permeated with the results of Harvey's discovery than is the human body with the circulation he discovered. It does not make him small to say that what he found out must have come to light had he never lived. If Columbus had not discovered America, someone else must have done so before now. The law of gravity might even have been revealed in the fulness of time to another if not to Newton. But the discoverer is before his age; in this lies one measure of his praise; another, and a more important one, is in the results of his discovery.

Presidential Address

DELIVERED BEFORE THE

PATHOLOGICAL SOCIETY OF LONDON,

At the Opening Meeting on Oct. 20th,

BY SIR GEO. HUMPHRY, M.D., LL.D., F.R.S.

GENTLEMEN,—I am fully sensible, I can assure you, of the honour you have done me in electing me to the presidency of this Society; the more so as I believe it is the first instance in which a member not resident in London has been chosen to occupy the chair of one of the great metropolitan medical societies. That this is possible now, and will, it may be hoped, be repeated, is among the many results of that freer means of intercommunication which is the leading feature of our time, and which is obliterating distance and drawing the various parts of the empire into closer union with the metropolis. Members residing even in the distant parts of England are now found to occupy positions on the councils and on the examining boards of the great London Colleges; and a few years ago I incurred some opprobrium for not taking my turn for the vice-presidency and presidency of the Royal College of Surgeons; but the fact was that at that time the duties devolving upon me at Cambridge, as Professor of Anatomy with a large and increasing class, in addition to the demands of hospital and private practice with clinical teaching, were not compatible with the proper fulfilment of the heavy and important duties attaching to the offices I have mentioned at the College of Surgeons. That was my reason for declining to be proposed for them, and I had no idea whatever of discouraging residents in the provinces from aspiring to and assuming high honourable positions in London.

In listening to the last report of the Council of this Society I could not but be struck by the great losses to the Society which the heavy hand of death had caused in the persons of Sir William Gull, Dr. Matthews Duncan, Mr. Marshall, Mr. Arthur Adam, Mr. Bellamy, Dr. Fincham, Dr. Gulliver, Dr. Humby, Dr. Way, and others. Such blows one feels must cause any society to reel. But we must take comfort and hope from the knowledge that such are the necessary conditions of continued life and progress under all circumstances. Some pass away that others may come on. Rejuvenescence of individuals never takes place in the animal or vegetable world. Stagnation is thus prevented, and the stream of life is kept fresh by the substitution of the young for the old, of the flourishing and growing for the fading and decaying, and so ever flows on bearing with it new thoughts and new developments. We are glad to learn that the fulness of the stream of this Society has been maintained, and more than maintained, by the new blood which has come into it, and we may hope that it will continue fuller and more fertilising than ever. The heroes of pathology are dead. Ever live the heroes!

Another paragraph in the report, proposing to "enlarge the Society's work, so as to include the communication of researches which, though not anatomical, are still pathological in the widest and highest sense, and that in the Transactions of the Society should be found as complete a record as possible of all work bearing upon the essence and nature of disease," is most encouraging and far-reaching, and promises great success to the future of the Society and a wide extension of its work. Indeed, such an enlargement of scope is absolutely necessary to keep the Society abreast of the times. The value of morbid anatomy, or anatomical pathology, as it is called, we still feel can scarcely be over-estimated. It forms and will form the solid basis of practical knowledge, of diagnosis, and of treatment. The post-mortem room and the pathological museum are the essential adjuncts to the hospital and the medical school; and we may be sure it is no intention of the Society to neglect or discourage this foundation-stone of medical science and practice. The Society will continue to welcome as willingly as ever all contributions of new facts and views in this direction. But it is quite

clear that the great advances in the future of pathology must be looked for not so much in this direction as from researches into the essence and causes and processes of disease; and we may hope that through them will be founded more rational and scientific treatment, and the gradual substitution of it for the empirical methods which have so long ruled. Solidism and Humoralism have ceased to attract, and we are now between the two, in the borderland of minute, almost inappreciable, chemical and microscopical changes. Hitherto we have regarded pathology as advanced physiology, and morbid process as a modification of the processes of healthy nutrition; and so, in large measure, it doubtless is; but we are now advancing into a region beyond the actual processes of healthy and morbid nutrition, into the wide field of the causes of the morbid processes; and these, some of them at least, seem to lie outside physiology—that is to say, outside the range of the natural phenomena and the modifications of them, and to depend upon certain agencies foreign to, or external to, and superadded to the natural phenomena of nutrition. In such light must we view the micro-organisms and their chemical products; and it is with the phenomena of micro-organisms and their ptomaines, and the action of these in modifying the nutritive processes, as well as with those modifications and their results, that we are now largely concerned. Thus a new field has been added to pathological investigation—a field of profound importance, and of the extent of which we can form no guess.

Further, the property of certain diseases to give immunity against themselves, referred to by our late President in his interesting and philosophical address to the Pathological Section of the British Medical Association at Bournemouth, is replete with interest, and seems to have a wide range of influence. It has its illustration, in one way, in vaccination; and it always has appeared remarkable that this kind of illustration should so long have stood alone, though certainly that is less remarkable than that its protective power against small-pox should have been doubted by reasonable and observant persons, or that it should be supposed that so great a good should be conferred without any attendant evil. It is to a similar immunity, conferring influence, however wrought, that we must attribute not only the non-recurrence of certain maladies in the same person, but also the spontaneous subsidence of many diseases in the person or part affected by them. Even a common cold commencing in the nostrils does not abide there, but soon shifts its quarters to the throat, thence to the bronchi, then passes away, and leaves usually a temporary immunity from the like seizure. A spot of ringworm or of psoriasis ceases where it began, and spreads to pastures new, like the fairy rings upon the grass. Is it that in these and the like cases micro-organisms generate products which are poisonous to themselves? or is it that they exhaust the pabulum on which they thrive, and therefore quit the system or the locality? Is it in some such immunity-giving property that the secret of the influence of counter-irritants lies? Some effect of this kind, caused by the absorption of the altered proteids in a blister, is hinted at by Dr. Lauder Brunton in his masterly address at Bournemouth; and, forasmuch as observation respecting the effects of remedies is not a little dominated by theoretic view, will not the use of counter-irritants, which has notably diminished in my time, receive a new impulse if it is supported by fresh ideas as to their *modus operandi* based upon researches into the nature and spread of disease?

At the recent meeting of the British Association at Cardiff, the President, in his highly scientific and remarkable address, speaks of the improvements made in the spectroscope and the achievements of spectroscopic astronomy as worthy to be regarded as the scientific epic of the present century. May we not put in a strong claim for the achievements in bacteriological research, with the discovery of the various micro-organisms and their ptomaines as the sources of many diseases, together with that of the defensive proteids which seem capable of being derived from them, as being not only scientifically comparable with the results of spectroscopic astronomy, but as being of far greater importance, inasmuch as they have direct relation to the future well-being of man? May we not claim for pathology the highest place on the hill of physical science, inasmuch as it takes cognisance of all those subtle agencies, mechanical, chemical, electrical, and others, which influence for evil or for good the delicate workings of the most complex of existences, as well as the effects of those influences and the changes which result from them? Surely in no other branch of science has greater advance been made than in this during the last twenty years. Never before has so promising a light dawned upon medical science: and this Society is to be congratulated on the intention to endeavour to walk in it and to turn it to account.

In order to increase the brilliancy and make the most of this light, and throw its bright beams into practical directions, it is necessary that this Society should especially encourage and draw into it the younger members of the profession, by whom doubtless the work of pathology, especially in the wider sphere upon which we are now entering, must be chiefly carried on, more particularly in this country, where science is left so much to take care of itself, or, which is far worse, is sometimes impeded by misguided opinion and ill-founded sentimentalism, where income has greater demands upon it than elsewhere, and where the *res angusta* (for this especially affects the medical profession, into which not many men of wealth enter) compels most of its votaries, after the earlier years of life have passed, to follow the more lucrative and in some other respects more attractive path of ordinary practical work. It is in early life that the impulses in new directions are strongest and the mind is most accessible to new impressions, and the nerve-cell-looms of the brain most easily weave new thoughts. Many of the younger members of the profession are now occupied in investigations bearing upon this great subject; and this Society will welcome the results of their researches, which may here be laid upon the anvil of discussion and, while yet plastic, be hammered, if need be, into better form. This sort of ordeal in the present day, when the need of speedy publication is urgent, is the fitting substitute for that longer period of refining time and thought which was possible to our forefathers; and often does one see reason to regret that conclusions have not been subjected to it before being submitted to the wider bar of public opinion.

It is upon the other officers of the Society that I must in great measure rely for the assistance which I know will be kindly given; but I will do my best to attend the meetings, and fulfil the responsible and honourable duty which you have imposed upon me.

RECENT EXPERIENCES IN

THE TREATMENT OF TUBERCULOSIS (WITH SPECIAL REFERENCE TO PULMONARY CONSUMPTION) BY KOCH'S METHOD.

BY PROFESSOR P. EHRLICH, M.D., BERLIN.

A paper read before the International Congress of Hygiene and Demography, held in London. Abstracted by

THOMAS WHITESIDE HIME, B.A., M.D., Bradford.

[THAT the question of the merits of tuberculin was introduced at the Congress of Hygiene and Demography held in London last August must be regarded as an error of judgment, for therapeutics were properly excluded from the programme of such a congress, but that, having been introduced, it should be treated as it was, must be pronounced a gross blunder. This will not appear too severe a censure when it is explained that just twenty minutes were assigned to the consideration of this most important and interesting subject—one gentleman being allowed ten minutes to speak in the affirmative, and another ten minutes to speak against it! Professor Ehrlich could not attempt to read the whole of the important paper he had prepared in ten minutes, and as he spoke in German a good many of his hearers probably did not understand the short extemporised abstract of it which he gave. As he had been working with Koch, and must know his latest opinions and experiences with tuberculin, I thought it very undesirable that his paper should not see the light until the publication of the Proceedings of the Congress (perhaps months hence), and then only in a foreign language. The readers of THE LANCET have here a full abstract of the paper, which cannot fail to interest them and revive attention in those who have been inclined to neglect this wonderful discovery of Koch. The necessity for the

administration of small doses of tuberculin, and for its long-continued use, are points on which I expressed a strong opinion in THE LANCET at the beginning of this year, and Langenbuch's and Ehrlich's favourable results with that method quite correspond with my own.—T. W. HIME.]

Up to the present time therapeutics, the most important branch of medicine, has grown from pure empiricism. Observation of the beneficial effect of certain substances on animals or men has been the origin of their employment for therapeutical purposes. This may be illustrated by the history of quinine, opium, and mercury. It is only in most recent times that a change has taken place, and since the great development of chemical science in recent years it has become possible to ascertain the connexion between the constitution of medicines and their medicinal properties, and such researches are being made with great energy and success. This line of research has been greatly influenced by the more accurate investigation of the nature and properties of the alkaloids. By this it has been established that to the greater number of these substances, though endowed with such different properties, one nucleus is common—viz., that of pyridin,—and that various collateral groups, to which the physiological effects are due, are correlated to this body. From this discovery sprang the artificial and designed synthesis of new drugs. A glance at the history of the more recently introduced antipyretics—chinolin, kairin, thallin, down to antipyrin and phenacetin—proves that it is possible by suitable combinations to exclude injurious effects without interfering with therapeutic activity.

However, though the symptomatic treatment of disease may be satisfactorily met by this method, it must always be the true end of scientific therapeutics to attack the cause of the disease directly and destroy it. Although the possibility of effecting this has been proved in the case of recurrent fever and syphilis, still we possess no specifics against the majority of infectious diseases. It was not pharmacology which opened up the path to the desired goal, but the great discoveries of Pasteur and Koch as to living causes of disease, which cannot be discussed in the present paper. After Koch had discovered the cause of tuberculosis, he devoted his whole energies to the discovery of the means of resisting it. He found little success with the great number of organic and inorganic agents. It was the study of the biology of bacilli and the analysis of the natural processes of healing which led Koch to find in the specific products of the vital activity of the bacilli the only means of contending successfully with tuberculosis. Thus we have realised for the first time the ideal of a rational mode of treating disease in accordance with strictly systematic scientific principles, and we have an example offered us which must serve us as a standard in the further development of the art and science of medicine.

The unwarranted enthusiasm and the no less unwarranted depression which followed on the announcement of the discovery of tuberculin are in the memory of all. The despondent view taken by so many has been mainly due to anatomo-pathological observations. And yet it must be self-evident that Virchow's demonstrations, which referred mostly to very advanced cases, in no way invalidated the *principle* of the method of treatment, but at the most could only be directed against its technique and against its employment in very advanced cases. Undeterred by those fluctuations of feeling which are but too common in the history of every great advance in science, a large number of medical men have persevered in their endeavours to utilise the benefits derivable from tuberculin, while getting rid of its disadvantages. Koch has established the fact that the essential point in the use of tuberculin is its local effect on all tuberculous tissues. Of the various hypotheses suggested for the explanation of this remarkable phenomenon, the one proposed by Koch himself is still the most probable. He suggests that at every place where there are active tubercle bacilli there exists a certain amount of toxin, and consequently the increased action following on the injection of tuberculin is due to a simple summation of the pre-existing and injected toxin. The new theory of Koehler and Westphal is not defensible; it assumes that the active principle in tuberculin is not identical with the products of the vital activity of the tubercle bacilli present in the tuberculous tissue; and their opinion, that a new substance, capable of exciting inflammatory action, is developed from the combination of the two is entirely unsupported by facts or by analogy.

In attempting to give any explanation of the nature and cause of the local action of tuberculin, it must be borne in mind that it attacks the tissues immediately around the tubercle, and not the tubercle itself. With reference to this point, Biedert seems to have been the first who stated that the essential difference between the action of the injected tuberculin and that produced by the bacilli *in loco* is that the former attacks the tubercle from the periphery, the latter from the centre. One might go a step further and assume that the cells forming any particular tubercle have acquired a certain increased degree of immunity in consequence of their being exposed to the constant action of the products of the tubercle bacilli, whilst the constituent cells of the diffusion area surrounding the tubercle are in the opposite condition. It is in these latter areas of increased susceptibility, such as the cutaneous system of the guinea-pig, that tuberculin exercises its activity. It is here that the inflammatory symptoms first occur, the transudation of serum &c. Under these circumstances there takes place, in many cases, an escape, towards the outside, of the metamorphic products which were deposited within the tubercle, and in this way the action of the injected tuberculin is reinforced from within. By the aid of this explanation most of the phenomena of reaction, frequently so paradoxical, may be satisfactorily accounted for, especially the remarkable fact that very minute doses of tuberculin frequently produce strong reaction, out of all proportion to the quantity of tuberculin injected. It is evident that in such cases there must coexist a number of favourable conditions—e.g., suitable anatomical structure, the possibility of free diffusion into and from the surrounding tissues &c., which result in a small quantity of injected tuberculin setting free a disproportionately large quantity of metamorphic products from the tuberculous mass. In the same way can be explained the fact so often observed in the early cases treated by tuberculin, when large injections were given at the end of the treatment, that the first decigramme dose after the pause in the treatment, caused a strong reaction, while the second, administered on the next or next but one day following, produced no noticeable effect.

One of the greatest triumphs we owe to tuberculin is that which has been gained with reference to the diagnosis of tubercle, more especially of pulmonary tuberculosis, a matter of such paramount importance for practical purposes. There exist now almost numberless instances of individuals with regard to whom, with the previous means of diagnosis, one could only *suspect* the existence of pulmonary tuberculosis, but who even after the first injection of tuberculin were proved beyond doubt to be so affected, either through the occurrence of a characteristic reaction or by the demonstration (for the first time made possible after tuberculin had been injected) of tubercle bacilli in the sputum, set free by the local action of the tuberculin. In another way too the tuberculin has proved itself of great clinical importance by demonstrating that in many cases there existed numerous latent tubercular deposits, although it was supposed that only one strictly localised deposit was present. It may be well to refer here to the frequency with which affections of the apices of the lungs are accompanied by secondary processes in the superficial lymphatics of the axillary and supraclavicular regions, and of complications affecting the synovial membrane, bones, and other parts, which were first recognised after injections of tuberculin.

In considering the diagnostic importance of tuberculin, it is practically uncontested that the occurrence of local reaction is proof of the existence of tubercle. Among the numerous diseases in which the reactive properties of tuberculin have been tested there are only two, besides tuberculosis, in which in a few cases a local reaction has been observed, accompanied by beneficial result—viz., actino-mycosis and leprosy. In the case of leprosy the morphological and tinctorial properties of the specific organism had, even before the introduction of tuberculin, suggested a close relationship to tuberculosis. The exceptional phenomena of local reaction occurring in the case of these two diseases does not really diminish the diagnostic value of tuberculin for practical purposes in tuberculosis, as both the diseases in question are easily distinguishable.[1]

[1] Professor Ponfick mentioned a very instructive case in point at the recent Congress of Hygiene in London. In a case under his care he had diagnosed pulmonary tuberculosis, and after an injection of tuberculin had been given a distinct reaction was produced. The patient subsequently died, and on making a post-mortem examination a considerable extent of one side of the chest wall was found affected by actinomycosis and not tubercle. Determined to go to the root of the matter, Dr. Ponfick very carefully examined the various organs, and in the apex of one lung discovered a small, quite unsuspected deposit of tubercle.—T. W. HIME.

The question of the value to be attached to general febrile reaction has been still more contested, and more particularly has discussion been raised over the fact that in many apparently healthy persons even doses of 1 mgr. produce strong febrile reaction. There is not sufficient evidence available to decide this question at the present time, but there are very strong grounds for believing that where doses—e.g., below 5 mgr.—produce such reaction there is tubercle present. Fifteen experiments made in the Moabit Hospital, Berlin, on healthy attendants, with injections of 0·001, resulted in a rise of temperature of a trifling character being observed (to about 38° C. = 100·4° F.) in only a single case.

Whoever has had the opportunity of proving in the post-mortem room what a small mass of tubercle, hardly the size of a pea, has led to severe general reaction, will involuntarily be disposed to regard these cases of apparently healthy persons giving marked reactions to tuberculin as being those of persons in whom there exist small or concealed tuberculous deposits, whose situation (bronchial glands &c.) has helped to prevent their discovery. Besides this it must be borne in mind that, according to some persons, one-third of all bodies examined post mortem, according to others, even one-half, show evidence of having suffered from tuberculosis. Considering the unsettled state of the question, it is all the more desirable that it should be energetically investigated by veterinarians, who are more fortunately situated than medical men for ascertaining the facts. It can be stated as a definite fact that in the case of apparently healthy cattle, whenever a reaction occurs after an injection of small quantities of tuberculin (0·1 to 0·3), after they have been slaughtered they have been found without exception to be tuberculous.

The healing properties of tuberculin are generally recognised as exclusively dependent on its local specific influence on the tuberculous tissues. Prolonged experience with the employment of tuberculin has shown that, in order to secure the desired therapeutic effect, it is neither necessary nor desirable to produce severe local reaction. To get the best results smaller and more frequent doses are preferable. The essential principle of the healing process is to effect the encapsulation of the tuberculous tissue after the manner of cicatrisation. This can be best attained by maintaining the specific irritability of the diseased tissues as long as possible, and not (as in the early method) by destroying it by large and rapidly increased injections.

The history of the treatment of lupus by tuberculin affords a proof that the astonishingly good results attained at the outset of the treatment, when strong reactions were invariably thought necessary, were purchased at too dear a price—viz., the rapid decline of the reactive power of the tissues. The successful continuation of the treatment and the prevention of relapse were thus rendered impossible. It is no mere accident that has led to agreement on this point by all those who have recently written on the subject, including Biedert, Lichtheim, Langenbuch, Moritz Schmidt, Merkel and Rosenfeld, Wall, Guttman, Ehrlich, and others.

The essential principles common to the practice of all these authorities are the avoidance of strong general and local reaction, the employment of small doses, and a slow and gradual increase in their amount. The fact that small doses produce, as a rule, but little irritation is an argument in their favour, for by their employment all the disadvantages which may result from a very marked reaction can be completely avoided. There will thus be no grounds for fearing that the zone of tissue which, according to Biedert, may be regarded as a "bulwark," on the maintenance and strengthening of which by connective tissue depends the cure of the tubercle, will be prematurely destroyed. Undesirable complications can also be avoided, such as the long-continued elevation of temperature, as well as the general weakening of the system indicated by the loss of weight commonly observed where there is high fever. But the chief advantage of the administration of small doses is that the organism does not become so easily habituated to tuberculin. Under the old system of large and rapidly increasing doses the patient, sometimes within a week, usually within a month, arrived at that stage when he showed no more reaction after doses of 1 decigramme; but with the small doses, even after months of treatment, a febrile reaction may occur if the doses should be temporarily increased too much. Another means of maintaining the irritability of the tissues for as long as possible is the administration of the injections, not daily, but at longer intervals. A further advantage of this method is that the injurious influence of a superposition, the so-called cumulative effect, is completely avoided.

The following procedure, founded on the foregoing considerations, is recommended by Koch as the best. The dose should be large enough to induce without fail a reaction of the diseased parts. As it is not usually possible, in the case of pulmonary phthisis, to detect the occurrence of local reaction, small elevations of temperature should be taken as an indication of the sufficiency of the doses; but these elevations should not be allowed to reach actual febrile temperatures—38° C. (100·4° F.) and upwards. In the majority of cases the initial dose should be less than 1 mgr.[2] In the case of patients who are still vigorous and do not exhibit any symptoms of advanced disease, the first injection may experimentally be $\frac{1}{2}$ mgr. But in the case of debilitated patients, or those suffering from more extensive disease—in a word, whenever there are grounds to suspect greater susceptibility to the action of tuberculin—it is better to begin with not more than $\frac{1}{10}$ mgr. The injection is to be repeated, according to the individuality of the patient, at intervals of from two to three or even more days. The quantity is not to be increased until the slight reactive wave produced in the temperature-curve has disappeared. In this way the treatment is to be carefully and tentatively continued, and in accordance with the phenomena induced by the administration of the tuberculin. This method should only be departed from in cases where there is hectic fever, as the fever already existing in these cases masks the occurrence of the desired minimal reaction. In such cases it has been found advantageous to administer smaller doses *several times* a day—e.g., 3 to 5 decimilligrammes, and ultimately to increase the quantity only very cautiously. By this means in the Moabit Hospital (Berlin) and elsewhere very decided improvement has been obtained in a relatively short time, often within the first eight to fourteen days the hectic more especially being completely brought to an end.

Attention must also be directed to the efforts which have quite recently been made to increase the curative action of tuberculin by combining its administration with suitable drugs. The specific tubercular nodule represents what may be regarded as an almost isolated non-vascular portion of tissue, which, as one might say, protects the tubercle bacilli from the influence of the tuberculin introduced into the blood. It seems a very natural and plausible thing to attempt to utilise the transudation into the affected parts induced by the local reaction, as a means of exposing the tubercle bacilli to the action of suitable destructive agents. Many attempts in this direction have been made by various persons, and such good results have been obtained in the treatment of lupus in Professor Sonnenburg's wards at the Moabit Hospital by a combination of tuberculin injections with the local application of emplas mercuriale,[3] that they deserve particular mention. Of course it is essential to a good result that the affected parts be kept constantly in close contact with the plaster.

It will be the duty of the clinician to endeavour to bring into action against the tubercle bacillus, by the help of tuberculin, such substances as are known to exercise an unfavourable influence on it. That the great problem will be successfully solved by this means is rendered highly probable by the results already published by Maragliano and Langenbusch as to their success in the treatment of pulmonary phthisis. The splendid results obtained by Langenbusch in the treatment of phthisis by the combination of tuberculin and other suitable substance, especially picric acid and sublimate, are established facts which can be vouched for. When it is, further, borne in mind that he did not select his cases, but treated a rather unfavourable average class of case, and that still of ninety-nine cases 40 per cent. improved and 33 per cent. were cured, it must be admitted that these are facts which must excite the wonder and admiration of everyone.

In combating so obstinate a disease as tuberculosis it is obvious that no auxiliary means of treatment should be neglected, and the general principles laid down by Brehmer and Dettweiler should be carried out in the most thorough manner. Koch himself, in his original paper, laid it down as essential in surgical practice to combine suitable surgical methods with the administration of tuberculin. It will always be a task of special importance to decide whether in any particular case the use of tuberculin is

[2] Of tuberculin.—T. W. HIME.

[3] V. Deutsche Med. Wochenschrift, No 30, July 23rd, 1891.—T. W. HIME.

to be recommended or not. There is certainly no reason for limiting its employment to cases in the initial stage, and excellent results have been obtained in advanced and even hectic cases, when the treatment has been carried out in the manner here indicated and for a sufficient time. Unfortunately hospital patients are often compelled by their circumstances to break off their treatment when they have hardly begun to derive benefit from it. Under such circumstances it is not surprising if any benefit derived should speedily vanish. Hence it must appear desirable, so far as the interests of the method are concerned, that the treatment of advanced cases should only be undertaken when there is the certainty that it can be carried out regularly and for months. It is much to be wished that the necessary conditions for such treatment will be attained by the provision of suitable special hospitals and convalescent homes.

As to the therapeutic results so far obtained by the use of tuberculin, friends and foes are still engaged in active dispute. It is obvious that too much value must not be laid on statistical reports, especially those published at the commencement of the method, which only give the experience of a few weeks. The mere consideration of the difference in the class of patients which came under treatment immediately after the publication of Koch's method must prove suggestive. Patients in extremely advanced states of the disease, to whom the new method appeared as a ray of hope, thronged to those who were using the tuberculin method, and almost forced them to attempt dangerous experiments with it. It must further be borne in mind that this was in every sense the experimental period; the properties of tuberculin had to be studied, it was a perfectly novel substance, without analogue in the armamentarium of the medical man, and neither his professional education nor his experience provided him with any indications as to its use. The whole field on which tuberculin might be utilised had to be explored, and—last, not least—the best method of utilising it had to be ascertained.

The deep despondency as to the efficacy of tuberculin which prevails in many places is essentially due to the attacks of pathologists. It may be admitted that Koch's original mode of employing tuberculin against tuberculosis in man might in some cases prove hazardous. Still none the less is it a source of the greatest regret that, under the influence of erroneous views as to the significance of appearances noted in the post-mortem room, the estimation of the value of tuberculin should be made entirely from a wrong direction. It has been the common practice to attribute to the influence of tuberculin every unfavourable circumstance[4] which may occur in a case treated with it, even though the very same are observed in the course of ordinary cases not so treated. On the other hand, it may be stated that out of the very large number of cases treated in the Moabit Hospital (Berlin) not a single case of miliary tuberculosis has been observed, and complications, such as pneumothorax, intestinal perforation, and hæmoptysis, only rarely, and certainly, if anything, less frequently than with any other kind of treatment.

It cannot be too frequently repeated that the pathological anatomy of the recorded necropsies which are so constantly referred to as condemnatory of tuberculin refer exclusively to cases treated according to the old method, and hence have at present no actual practical value. Further, the conclusions on this very subject have been drawn from a relatively limited number of cases, very small as compared with those available for clinical purposes. It may be accepted as an established fact that the secondary pneumonic processes, which it is so important to avoid, are no longer to be anticipated with the method of small doses. It may further be regarded as highly probable that the risk of dissemination of the disease is energetically resisted by this method, the object of which is to secure the encapsulating of the tuberculous masses in a systematic manner.

In conclusion, it is desirable to refer briefly to the therapeutic results so far obtained. The majority of authorities are agreed that under tuberculin-treatment remarkable improvement is obtainable. It shows itself in the favourable turn observed in all the physical conditions, especially in the diminution or disappearance of the râles, the changes in the sputum, and the ultimate disappearance of bacilli from it, the cessation of the cough, hectic and night-sweats, the improvement in the general condition, and a considerable increase in weight. An equal degree of improvement in respect of these is quite unknown with other kinds of treatment. There are persons who do not set so high a value on these results as others; and yet from the practical point of view it must be regarded as no small triumph when, after a relatively brief treatment, a patient broken-down with disease is in so short a time restored to his family and enabled to go back to his work. It is only to be expected that complete cures, as evidenced by the total disappearance of all objective and subjective symptoms, have not been attained. But some attention should be paid to the observation of Koch, Stricker, Furbringer, Guthrie-Leigh, Cantani, Langenbuch, and myself (five cures). As to the permanence of the cures no definitive decision can be given for years to come. But in all probability, and judging from an experience of three-quarters of a year, there is good reason to believe the cures are permanent. And there is certainly no reason why the cases regarded as cured by the tuberculin-treatment should not be considered so as much as those which have been treated by other methods—e.g., the hygienic-dietetic as at Görbersdorff, Falkenstein, &c. The published statistics of such institutions offer very encouraging standards of success in numerous cases.

Most remarkably gratifying success has been obtained in the treatment of laryngeal tuberculosis, the relatively greater success in this form of the disease being no doubt due to the anatomical relations, which admit of a relatively easy removal of infected material. Even if the brilliant successes reported in individual cases—as those of Renvers, Lenzmann, Michelson, &c.—be entirely disregarded, there remain the reports of such men as Moritz Schmidt, who obtained twenty cures among thirty-nine cases, and those of Grabower, who of forty cases states that eight have remained perfectly cured during several months, and that fifteen are considerably improved. Such results must be regarded as highly gratifying. These splendid results obtained by laryngologists, even in hopeless cases, are of great value, as they prove incontestably that tuberculin can effect complete cures, not only in animals experimented on, but also in men. It is the most important duty of medicine at the present time to investigate the processes by which these results are obtained, and to discover the means by which these rare cases may become the rule. Owing to the extraordinary complexity of the tuberculous process, it has been extremely difficult to ascertain the conditions of success. But when we reflect that the majority of the questions of general therapeutics are still waiting for an answer, when we consider that the important question—which has already been under discussion for centuries—as to the utility of antipyresis is still being debated, and is still far from being solved, if we bear these and similar facts in mind there will appear no grounds for discontent with the theoretical and practical results obtained in a few months by the tuberculin treatment. The very peculiarity of Koch's discovery will enable the desired goal to be reached all the more quickly; for experimental research is the soil whence it has sprung, and it will be possible to test by experiment the various problems which present themselves, and often in so perplexing a manner, to the clinician. Koch has been fully alive to the fact that the isolation of tuberculin in a perfectly pure state, free from all unnecessary by-products, for clinical use, is an essential adjunct to extensive experiments on animals. For some time past he has been employing exclusively this pure substance at the Moabit Hospital in Berlin. This substance has been found to possess several advantages over the original lymph, which are especially observable in the effects produced on the general condition of the patients and in the absence of unpleasant secondary effects. Local reaction is produced in a typical manner by this pure tuberculin. With relatively larger doses or more rapid increase in their quantity, the febrile reaction occurs, almost invariably showing the type of a rapidly decreasing fever-wave. The results, so far obtained, have been such as to justify the hope that the favourable anticipations entertained as to Koch's great discovery will be fully realised.

Bradford.

[4] Most especially the danger of dissemination of the disease, as if it were not the very nature of tubercle to spread, and from being a strictly local disease to become widely disseminated.—T. W. HIME.

MILK IN OUR HOSPITALS.—The members of the Lambeth Board of Guardians have passed a resolution requesting their representatives at the Metropolitan Asylums Board to introduce and support a resolution advocating the substitution of milk for intoxicants at the various hospitals.

CASE OF COMBINED PYLORECTOMY AND GASTRO-ENTEROSTOMY FOR CARCINOMA OF THE PYLORUS; RECOVERY.

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SINCE Professor Senn in 1888 first brought before the profession the result of his experiments on the use of decalcified bone-plates in the operation of gastro-enterostomy and intestinal anastomosis, and I in 1889 published a series of experiments whereby I was enabled to confirm in every particular the conclusions he had arrived at, I have had abundant opportunities of putting the operation into practice, with such excellent results that I feel confident ere long these operations on the stomach and intestines will be attended with the same brilliant success which is now claimed for ovariotomy and other abdominal operations. From further experimental research which I have been lately prosecuting at the laboratories of the Royal Colleges of Physicians and Surgeons I have been convinced that the operation of pylorectomy in itself is an unsafe proceeding, but that in combination with gastro-enterostomy it can be successfully performed. The subject of the following notes, for which I am indebted to Mr. Cecil Beadles, my house surgeon, was kindly sent me by Dr. Stonham of Ventnor, who, after careful examination and in consultation with Dr. Coghill, believed her to be a favourable subject for operative interference, an opinion which was fully justified by subsequent events. As this is the first published case of the combined operation of pylorectomy and gastro-enterostomy being performed in this country, I think it right to record it as early as possible. I showed the patient herself at the Clinical Society on Oct. 23rd.

Ellen G——, aged thirty-eight, married, was admitted into the Cancer Hospital, Brompton, under my care, on July 25th, 1891. There was no history of cancer; her brother died of phthisis. She has had six children, the youngest twins; one living, aged nine months; could not nurse it, as she was too ill at the time. The patient says she had influenza badly a year ago last January, and had a return of it immediately. She had severe pains in her right leg and in her head, and also slight pain in the stomach. In March, 1890, she had vomiting, which has remained on and off since. In November, 1890, she was confined with twins, one of which was stillborn. Labour was difficult; was in bed for three weeks, and confined to her room for two months. She was very weak, used to vomit frequently, and kept very little down. After her confinement she had puerperal peritonitis; no history of hæmatemesis. Menstruation has not taken place since the birth of the child. She has suffered much from constipation. Three days after confinement, she says, Dr. Stonham, who was attending her, noticed a tumour in the right side of the abdomen; previously to this she had not observed it. During the last month this has grown rapidly. The patient has been confined to her bed during the three weeks prior to coming to the hospital, owing to pain and weakness; she has felt latterly much pain in the right side and back, and recently has suffered from frequent vomiting. Dr. Stonham arrived at the conclusion that she was suffering from pyloric obstruction, probably of a malignant character, and in consultation with Dr. Coghill advised her to submit to an operation. Dr. Stonham wrote me a short history of her case, and I, concurring with their opinion, advised her being taken into the hospital with a view of operation.

Present state.—The heart and lungs are healthy. The patient is emaciated, and has been losing flesh rapidly. The abdomen is distended and tympanitic. No ascites. The rectum was loaded with hardened fæces, which were removed by an enema of olive oil and soapy water.

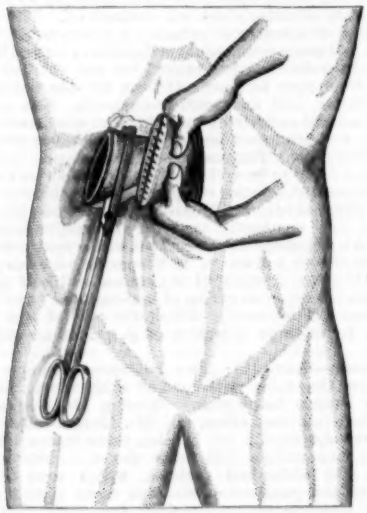
July 28th.—Stomach-tube passed, and a quantity of sour-smelling fluid drawn off, the colour of beef-tea. The stomach was thoroughly washed out with warm water. It was found to be enormously dilated, extending to the pubes. Succussion splash readily produced. After the stomach was emptied the parietes were quite flat, and a tumour connected with the pylorus clearly made out. It appeared of a sausage shape, measuring apparently about three inches long by two inches and a half wide. The tumour was freely movable, and situated on the right side of the middle line, extending from about one inch above the umbilicus downwards and to the right for about three inches.

The patient's condition was placed clearly before her (as, indeed, it had already been done by Dr. Stonham), and an operation recommended—firstly with a view of performing gastro-enterostomy, and secondly, if found practical, to remove the tumour. The patient, recognising the fact that she was daily becoming weaker, elected to undergo the operation. During the time she had been in the hospital she was fed by means of nutritive and stimulating enemata, only being allowed a little Brand's essence and water by the mouth. On July 30th the stomach was washed out with three pints of warm water, one pint containing 10 per cent. of salicylate of soda, which was drained off. The patient complained of a feeling of exhaustion afterwards. On the 31st she had some vomiting and diarrhœa; pulse 108. On Aug. 2nd the diarrhœa had ceased, but she vomited during the day from time to time. On the 4th the patient was feeling better, and no vomiting occurred. She was now being sustained entirely by beef-tea, port wine, and brandy enemata, and zyminised beef suppositories given every four hours alternately. Preparatory to the operation the abdomen was ordered to be well washed twice a day for two days with a 10 per cent. solution of liquor potassæ and water; after which a pad soaked in 1 in 2000 solution of perchloride of mercury was kept constantly applied. The night before the operation the stomach was washed out with a weak solution of salicylate of soda and water. In the morning she was given a beef-tea (3 oz) and brandy (1 oz.) enema, and half an hour before the operation an enema of beef-tea (2 oz.) and brandy (2 oz) was administered. When the patient was on the table a hypodermic injection of $\frac{1}{10}$ gr. of atropine was given.

Operation.—Aug. 4th: Two hot-water cushions being placed on the table and covered with warm blankets, and the patient being placed thereon, Dr. English proceeded to administer ether, and Mr. Elam kindly assisted me in the operation. An incision three inches long was made in the middle line from the umbilicus upwards through the abdominal parietes, which were so very thin that the peritoneum was cut down upon directly, and no bleeding points required catching. The peritoneum was divided the whole length of the parietal incision, and caught in three places on each side with pressure forceps. The tumour in the pylorus was seized and readily brought out through the wound; it being found to be perfectly free from all surrounding organs, I determined to remove it. A cloth wrung out in warm carbolised water was packed round the growth, which was found to extend for about four or five inches along the walls of the stomach. I next, with an aneurysm needle armed with No. 1 chromic gut, ligatured the vessels running along the larger and smaller curvature of the stomach, a little to the left of the point at which I proposed to make the section, and with a pair of broad ligament forceps I clamped that portion of stomach on the duodenal side of the proposed section. I then tore through with my finger the lesser omentum, and, Mr. Elam firmly holding the stomach, I proceeded to cut it across between his fingers and the clamp forceps with scissors, catching up each bleeding point as it was divided with pressure forceps. The growth with the pylorus, being thus severed from the stomach, was allowed to hang loosely out of the wound, covered with a cloth soaked in warm carbolised water. The vessels in the divided edges of the stomach were now quickly ligatured with catgut, and as it was found that there was a quantity of fluid in the stomach, this was carefully syphoned off by means of a rubber stomach-tube, and washed out. The edges of the stomach were next united by means of a continuous chromicised catgut suture passing through all its coats. (Fig. 1.) A second line of quilt sutures of No. 1 chromicised gut were now passed through the serous and muscular coats about an eighth of an inch from the edges; the ends of each pair of these sutures when passed were secured by clamp forceps, to allow of all the sutures being inserted before tying. Nine of these sutures were introduced in all; as each of these were tied care was taken to thoroughly invert the cut edges of the stomach, so as to ensure a good surface of peritoneum being approximated. (Fig. 2.) When all these sutures were tied and the union appeared complete, I allowed the stomach to drop back into the abdomen. I next passed an indiarubber ligature lightly round the duodenum about two inches from the pylorus, and clamped that portion of the duodenum

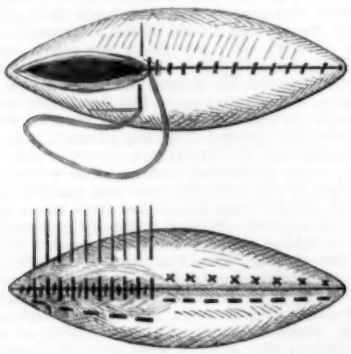
close to the pyloric orifice with forceps, (Fig. 3), and divided it between the forceps and the elastic ligature, leaving as much of the duodenum as I could with safety. The pylorus and growth were now free excepting at their attachment to the great omentum. This I transfixed with No. 4 Chinese silk and ligatured in the same manner as an ovarian pedicle (Fig. 4), and removed the growth by cutting the omental attachment across with scissors. The divided end of the duodenum was then united by means of a continuous chromicised catgut suture passing through all its

FIG. 1.



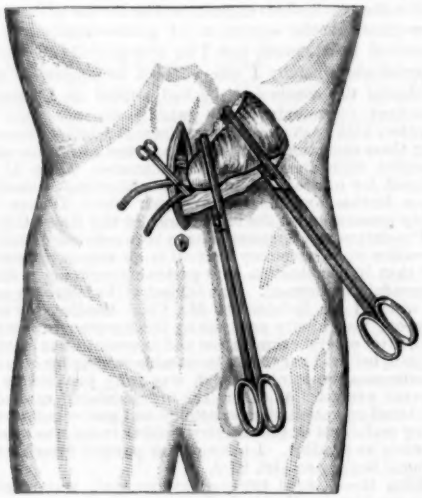
coats and a second row of quilt sutures of No. 1 chromicised gut, in the same manner as that described for the union of the divided end of the stomach, and allowed to drop back. The rubber ligature was now removed from the duodenum, a sponge was introduced into the cavity, and the first part of the operation thus completed. I then proceeded to perform gastro-enterostomy. I first pushed the transverse colon and omentum over to

FIG. 2.



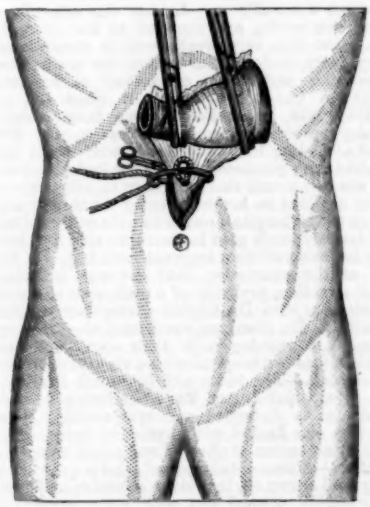
the right and passed the index finger of my right hand over it, and caught up a loop of the jejunum close to its origin, and drew it out through the wound. The stomach was again withdrawn, and an opening made into it about an inch and a half long, parallel to and about an inch from the greater curvature, and two inches from the divided end. A decalcified bone plate, threaded with two lateral chromicised catgut ligatures and two longitudinal No. 1 silk ligatures, was introduced. The lateral ligatures were passed through all its coats about an eight of an inch from the divided edge. The ligatures were given to an assistant to hold, while I proceeded to introduce a similar bone plate into the jejunum. Before doing this two indiarubber ligatures were passed round the intestine almost four inches apart, and fastened lightly. An opening in a longitudinal direction, about an inch and a half in length, was made in the convex surface of the jejunum between the indiarubber

FIG. 3.



ligatures, and a bone plate introduced, the lateral catgut sutures being passed through all the coats of the bowel. The two plates were now held in accurate apposition by Mr. Elam, while I tied the corresponding ligatures of the two plates. In tying the upper lateral ligature a considerable portion of mucous membrane prolapsed and

FIG. 4.



was with difficulty got into place, so I cut it off with scissors, after which the upper edge was readily made to go into its proper position. (Fig. 5.) A row of quilt sutures, five in all, were introduced along the upper edges and ends of the plate, and the parts, being thoroughly cleansed, were dropped back. The sponge which had been placed at the cavity left by the resection of the pylorus was

removed, and, all being dry, the abdominal wound was closed with silkworm-gut sutures in the usual manner, the wound dressed with sublimate gauze, and a large pad of wool and a many-tailed bandage firmly applied. The patient was then returned to bed.

The patient bore the operation exceedingly well; the only time that her condition appeared to give anxiety was after the division of the stomach and stitching up the duodenal opening. During the latter part of the operation she rallied a great deal. The operation lasted one hour and forty minutes. The portion of stomach and pylorus removed measured about 6 in. in length and 4 in. from above downwards at the gastric end. The specimen was shown at the Clinical Society with the patient. It contained a mass of growth, which was firm and not ulcerated, and which almost completely obstructed the orifice of the pylorus. There were no adhesions. The patient was ordered to have enemata of brandy (2 oz.) and beef-tea (2 oz.) every two hours, and zyminised suppositories every

FIG. 5.

two hours; if she expressed a wish for anything by the mouth she was to be allowed a tablespoonful of tepid water every hour.—Aug. 5th: Passed a good night; slept fairly well; no vomiting. The rectal feeding was now given every four hours; urine to be drawn off every six hours. To have two teaspoonfuls of peptonised milk and four teaspoonfuls of tepid water ever hour by the mouth.—6th: Slept well. No vomiting; complains of very slight pain in abdomen; bowels opened. The milk-and-water by mouth to be increased to double the quantity. Enemata as before.—7th: Wound dressed. There has been no tympanitis. No vomiting or other bad symptom.—At 9 P.M. the patient complained of pain in the back and at the epigastrium. At 12 P.M. the pain had considerably increased. No tympanitis. Food by the mouth to be discontinued for awhile.—8th: Better; free from pain; no vomiting; bowels opened. One teaspoonful of peptonised milk to be taken every hour. At 2 P.M. she was ordered to take two teaspoonfuls of milk-and-water every hour, and one teaspoonful of Brand's essence every four hours.—9th: Patient decidedly stronger; pulse improved. Complains of a little soreness at the right iliac and left hypochondriac regions.—12th (a week after the operation): The patient sleeps well and continues to improve daily. Allowed strong beef-tea, custard, and jelly by the mouth. She is now taking four ounces of beef-tea three times a day; three pints of milk, four eggs, and jelly and mutton broth in the twenty-four hours. All enemata discontinued; suppositories three times a day.—18th (a fortnight after the operation): Sutures removed from abdominal wound. Suppositories discontinued. Diet as on the 12th.—20th: The silk ligature loops which held the plates, and with it a portion of the chromicised gut ligature, have been passed per rectum. Diet to consist of boiled fish, tripe, milk, strong beef-tea, mutton broth, jelly, and eggs.—Sept. 17th: The patient has made uninterrupted progress, been out for drives, and takes her food well.—Oct. 23rd: The patient was shown at the Clinical Society. Since the operation she has increased nearly 2 st. in weight, which on Sept. 16th was 6 st. 4½ lb.; Oct. 1st, 7 st. 4 lb.; Oct. 21st, 7 st. 11 lb.

Remarks.—There have been, so far as I know, only six cases of pylorectomy reported as having been performed in Great Britain; five of these were operated on by the method of excising the pylorus and suturing the divided ends of the stomach and duodenum together, after the method practised on the Continent by Rydyger, Wölfler, and Bilroth. All these patients died within twenty-four hours of the operation. The sixth case was reported last year by Dr. Rawdon[1] of Liverpool, who adopted a novel method and utilised decalcified bone plates to unite the divided ends of the stomach and duodenum. The operation was thus performed in considerably less time than had hitherto been occupied. The patient made an uninterrupted recovery. I have on several occasions pointed out the difficulties that attend the operation of pylorectomy performed by uniting the divided ends of the stomach and duodenum, on account of the exceedingly short piece of duodenum covered with peritoneum that we have at our disposal, and, further, from the necessary traction upon the stitches which must ensue. To overcome this I have advocated the method of performing the combined operation of pylorectomy and gastro-enterostomy by means of approximate plates. This operation has been successfully performed by Dr. Bull of New York. His operation lasted three hours, as he spent one hour in ligaturing the omentum with a number of chain stitches before dividing it. He has operated in two other patients unsuccessfully, one dying from faulty suture and the other from a surgical disaster.[2] The case I am now reporting is the first in which the operation has been performed in this country, and the result is so brilliant that I am fully convinced that in the future it will be adopted by surgeons in all cases in which the diseased pylorus is sufficiently free from adhesion to neighbouring organs to allow of its removal. Moreover, by adopting this method, growths of very much greater magnitude than have ever yet been interfered with may be removed. In those cases where the disease is so extensive and adherent that it would be quite unjustifiable to interfere with it, the minor operation of gastro-enterostomy should always be had recourse to, as not only will the patient's sufferings be considerably alleviated thereby, but also life will be prolonged. I have now performed this operation on five occasions. One patient is still alive and well upon whom I performed gastro-enterostomy eighteen months ago, and showed at the Clinical Society last April; another is getting about and able to perform her duties twelve months after the operation; a third lived in comparative comfort for nine months. All these cases were *in extremis* when they came under my care, and could have lived a miserable existence for only a few weeks. The after-treatment I think of importance. In all my successful cases I have commenced to feed at once. If the union is perfect, as it should be, there can be no more harm in introducing warm water or peptonised milk than in the presence of the gastric secretions which are continuously being poured out; in fact, by diluting these I am sure the patient experiences considerable relief, and at the same time the strength is being maintained.

Wimpole-street, W.

THE CONDITION OF THE HEART IN DEBILITY.[3]

(THESIS FOR THE DEGREE OF M.D.)

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THE condition of the heart in debility is one of the *quæstiones vexatissimæ* of medicine. Thus will it probably remain for a long time to come, as the chances of post-mortem elucidation are but rarely afforded us. Hence one reads and hears many conflicting and even contradictory statements as to the causes of functional murmurs, and, moreover, as to their very character and existence. To have given merely a brief summary of the chief theories on the subject would have taken up more time than I have at my disposal, and I have thought it wise, therefore, simply to state the views which I have myself formed after five years' special thought and investigation. To this end I have divided my thesis into two parts, in one of which I shall

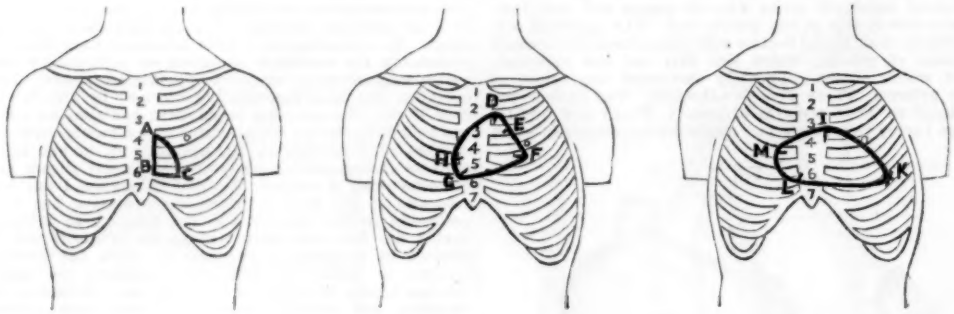
[1] Brit. Med. Jour., vol. i. 1890, p. 323.
[2] New York Medical Record, Jan. 10th, 1891, p. 39.
[3] I have chosen the word "debility," rather than anæmia, of set purpose, as quite half my cases, and many of the most marked and instructive, have occurred in broken-down subjects, who are not suffering, nor have they ever suffered, from the special blood state styled anæmia.

point out the clinical facts as they have been gathered by me, and in the other I shall give what I consider to be the true explanation of these facts. The clinical facts are these:—

1. *The apex beat* is displaced upwards and outwards, usually being in the fourth left space nearly as far out as the nipple line; it is rarely displaced downwards, and I have no record of having found it in the sixth space, though it is not seldom in the fifth, even as far out as the nipple line. Its impulse is somewhat diffused, feeble, and sudden, the feebleness not seldom rendering its localisation almost impossible without the aid of the stethoscope. But there is another very evident impulse, chiefly perceptible in the second and third left spaces, but often also noticeable in the first and fourth; it spreads from above down, and from right to left, with rapid vermicular movement; in each space it starts close against the sternum, and in the fourth is occasionally perceived to the right of this bone; in rhythm it is entirely systolic, or, rather, it is one continuous movement occupying the whole period of the auricular and ventricular contractions.

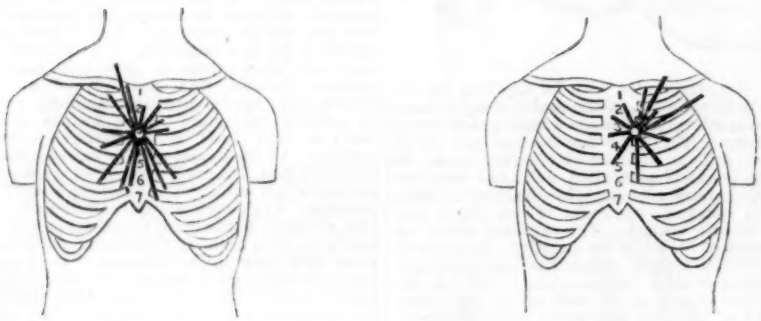
2. *The area of the superficial cardiac dulness* is in debility characteristic, and is the most valuable of all the signs which enable us to diagnose debility from organic disease. Taking the normal area of heart dulness to be the triangle (A, B, C, Fig. 1) made by the left edge of the sternum[2] from

FIG. 1.



1 2 3

FIG. 2.



Tricuspid. 1

Pulmonary. 2

FIG. 3.

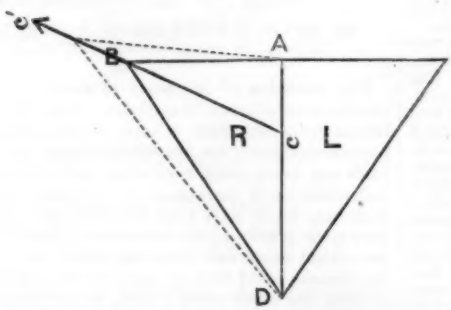
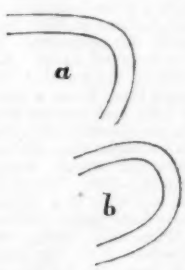


FIG. 4.



[2] Most writers state that the mid-sternal line marks the right boundary of absolute cardiac dulness, but I have found it to be the left edge in at least nineteen cases out of twenty.

the upper border of the fourth cartilage to the sixth, and by lines joining the extremities of this one to the apex beat in the fifth space at a point midway between the parasternal and nipple lines, then the similarly dull area in a typical debilitated heart would be an irregular figure made by joining the following points by lines slightly curved outwards (D, E, F, G, H, Fig. 1)—viz., D, at the lower border of the second left cartilage half an inch to the left of the sternum; E, a point over the third cartilage one and a half inches from the left edge of the sternum; F, the apex beat in the nipple line and fourth space; G, the right edge of the sternum at the upper border of the sixth cartilage; and H, a point in the right fourth space half an inch to the right of the sternum. If we compare this with the similarly dull area occurring in mitral regurgitation from organic disease, which has led to secondary right-sided dilatation as evidenced by tricuspid regurgitation, we find a striking difference: the irregular figure produced by a typical instance of this condition would have the following points as indices of its circumference (I, K, L, M, Fig. 1)—viz., I, the lower border of the third left cartilage at its junction with the sternum; K, the apex-beat in the sixth space and anterior maxillary line; L, the sixth right cartilage at its junction with the sternum; M, in the fourth right space one and a half inches to the right of the sternum.[3] The three points, then, where the depressed upper surface of the liver would be evident in the epigastrium, shape of the heart in debility differs from that of left-sided organic disease are—1. The apex beat is raised and displaced to the left, but this latter change is only slightly in excess of what is required by the arc of the circle which it traverses. 2. The proportionate extension of the dull area to the right is much less. 3. The proportionate extension upwards is much greater, this last being by far the most important of the three.

3. *Systolic murmurs are often present.*—These are produced at three points, which I state in the order of frequency—viz., the pulmonary artery, the tricuspid valve, and the mitral valve. Their rhythm is always systolic.[4] (1) The pulmonary murmur (Fig. 2) is heard best where the upper border of the third left cartilage joins the sternum and in the adjacent second and third spaces; it is also often conducted down to the fourth and up to the first left space near the sternum. It is seldom heard to the right of this bone or at the apex, but its line of best conduction passes up and out along the second left space towards the left shoulder. (2) The tricuspid murmur is best heard over the sternum between the third spaces, and from this spot it is conducted down spreading fan-like on both sides of the sternum as low as the fifth or even sixth spaces. In the third left space it is continuous with the pulmonary murmur, to which it is nearly always secondary. It is also sometimes well conducted up to the second and first right spaces, and may even be heard in the vessels of the neck. Though often harsh it may be very soft in character. It nearly always strikes one as being superficial, just beneath the chest piece of the stethoscope, bearing some faint resemblance to the whisper in pectoriloquy. Not seldom it is absent in the erect position, but becomes distinct when the patient lies supine; in any case, it becomes much more marked in this latter position. The pulmonary murmur also is often increased on assuming the supine position; but here the excess of loudness occurs chiefly in the second and third left spaces, whilst with the tricuspid the excess is most marked in the fourth and fifth spaces on both sides. In the erect position patients with tricuspid murmurs have systolic thrill or impact in their external jugulars, but when they lie down these vessels fill from below with distinct pulsation. (3) The mitral murmur is heard best at the apex; usually it is soft and not well conducted to the axilla; it seldom replaces the first sound entirely, but either takes the place of the first half of it, or is more of the nature of an addendum to it. It is of varying intensity, and during some beats is often indistinguishable.

In the second place, I would consider the causes of these abnormal facts. The chief fundamental condition is this—the left ventricle undergoes little or no enlargement. The best proof of this is the position of the apex beat; but there are other cogent reasons why this should be so. First, we must remember that debility is not a special cardiac condition. The body fails as a whole; and the heart muscle no more than other muscles, nor the heart nerves more than the nervous system generally. The whole constitutional state is below par, and every action, mental and physical, the beating of the heart included, is performed feebly; but there is no evidence to show that the feeble left ventricle is unable to supply the diminished wants of the feebly acting body.[5] Secondly, should the left ventricle from any particular cause be unable to send on all the blood delivered to it by the right ventricle, there is no necessity here for enlargement; it may simply adjust matters by but partially emptying itself and then refusing to admit all the blood from the lungs, for the wants of the debilitated body are not imperious, and will not clamour for their due quantity of blood, but will weak-heartedly content themselves with a smaller amount and so lead to further anæmia. The next fundamental condition is this: the right ventricle in debility nearly always becomes enlarged. The reasons for this are not far to seek. In debility, continuous work tires the body as a whole, and the heart is subject to no particular liability to fail, for the debilitated body is incapable of prolonged exertion of any kind. But the condition in *sudden* exertion is very different. In exercise the initial strain falls on the right ventricle; the first need created is for more rapid oxidation of the blood, and the labour of producing this oxidation is the right ventricle's; should it, through debility, fail in complying with a *sudden* demand for extra labour dyspnœa is induced, the individual abandons his task, and the rest of his body, including the left ventricle, is saved the undue strain by the failure of the right ventricle, which thus acts as a buffer to the left. Even if the *left* ventricle fails, the right again becomes the scapegoat. As we have seen, failure of the left does not necessitate its enlargement; it merely induces it to receive less blood from the left auricle and thus increases the tension in the pulmonary circuit and the work of the right ventricle. Thus the left ventricle has no extrinsic causes for failure, while the right has two—viz., the initial strain of sudden exertion and increased pulmonary tension from weakness of the left. Both these are important and frequently occurring causes, and quite account, in my opinion, for the enlargement of the debilitated heart on the right side only.

These statements granted, it is easy to explain (1) The position of the apex beat. The aortic valves may be regarded as the fulcrum of the heart. If the left ventricle does not enlarge, it is evident that its apex must move in the arc of a circle of which the aortic valves form the centre; that is, either down and to the right, or up and to the left. In debility the enlargement of the right ventricle naturally pushes the apex to the left, and therefore up, so as to obtain more room for its apical portion between the left ventricle and the liver. (2) The peculiar dulness is due to a dilatation of the right ventricle unaccompanied by a corresponding increase in size of the left. Hence the right ventricle's dilatation takes place chiefly in the upward direction, as it is here freest from the restraining influence of the stout left ventricular walls. The two ventricles may be regarded as a cone, which is shown in section at Fig. 3; if one half of the cone be rigid (L) and the other half uniformly distensible (R), it is evident that with a uniformly distending force the chief dilatation of the distensible side will occur about the free semicircular border of its base—will, in fact, occur along the line C C′, which bisects the angle A, B, D. Such seems to me the condition of the right ventricle in debility, and this pushing upwards of the free semicircular

[3] There would also be epigastric pulsation, and the convexity of the

[4] I have never yet been able to satisfy myself as to the necessary existence of an aortic murmur. That a murmur is often loudly heard over the aortic area, and is at the same time widely distributed to the root of the neck, there can be no doubt; but I have never had any difficulty in explaining it as part of a tricuspid or pulmonary murmur according as I thought it venous or arterial. For (*a*) the right auricle not seldom occupies a portion of the second right space. (*b*) There is no valid reason for supposing that the audible vibrations of tricuspid regurgitation cannot be conducted as far as the internal jugulars. Again, (*c*) the pulmonary artery branches to the apices of both lungs, and its vibrations should be heard over these. (*d*) The pulmonary artery and aorta are two closely apposed vessels, each tensely distended with the same fluid; it is only reasonable to believe that vibrations arising in the one are transmitted to the fluid in the other. In proof of this I might add that the murmur of aortic regurgitation is not seldom most audible over the third left space—that is, at a point where its vibrations reach the ear through the pulmonary artery.

[5] It is true that when there is high tension in anæmia the left ventricle has extra work to do; but most of these high-tension anæmias are not severe ones, while in nearly all the debilities of middle life the condition is one of low tension. Moreover, if the tension is high and the ventricle too feeble to fight against it, there is no need for it to enlarge. It may content itself with a still more imperfect systole, and so still further handicap the right ventricle, both by raising the tension in the pulmonary circuit, and also by more feebly supplying the body (including the right ventricle) with arterial blood.

border takes place to such an extent that the pulmonary valves are sometimes found as high as the first left space.[6] As we shall see directly, the pushing up of the pulmonary valves shortens the distance between the extremities of the pulmonary artery, and thus renders its dilatation easy, which may also help to explain the high range of the dulness, a range which I have occasionally found extending as far as the clavicle. (3) The murmurs: The pulmonary murmur is the result of a complicated change in the shape and position of the pulmonary artery. This change consists in: (*a*) The carrying upward of the pulmonary valves till they are vertically over the bifurcation[7] of the artery (or even higher). This necessarily brings the valves nearer the bifurcation; for the artery may be compared to a U-tube which has its ends widely apart (*a*, Fig. 4); the change in position approximates these ends (*b*, Fig. 4), and thus obliges the curve of the artery to be the circumference of a smaller circle—in other words, sharpens the curve, and at the same time carries it higher up, and presses its superior wall against the arch of the aorta. As the tension in the aorta is so much greater and its wall so much thicker, it may be looked on as a rigid body; the pressure of the pulmonary artery against its arch will therefore flatten the superior wall of this vessel. (*b*) The plane of the right auriculo-ventricular septum ceases to lie in the same plane as the left, but becomes tilted from left to right upwards and backwards (*vide* Fig. 3), owing to the dilatation of the right ventricle.[8] This will prevent the axis of ventricle and artery being in the same straight line, and hence the blood during systole will impinge upon the side of the vessel. (*c*) The condition mentioned under (*b*) is still further increased by the union of the pulmonary artery to the aorta, which will not allow the posterior wall of the former to rise to anything like the same extent which the free anterior one does. (*d*) It follows from this that the anterior semi-circle of the arterial coat is also more pushed up than the posterior, and must therefore become more lax, and hence an additional reason for its compression against the aortic arch. It will, moreover, assume a more or less anterior bulge or aneurysmal state, which must render the production of vibrations more easy. (*e*) The movement of the apex to the left and somewhat upwards still further alters the angle at which the ventricle lies to the pulmonary artery. This movement of itself, when of considerable degree, is sufficient to produce a murmur, as we know from the temporary murmurs arising in left pleuritic effusion, and which vanish at once on the withdrawal of the fluid by a syringe. (*f*) Dr. Russell's theory (*loc. cit.*), that it is due to pressure by an abnormally distended left auricle, is no doubt also true, though I do not think it a main cause, nor an always present one; for I have not found evidence of an over-distended left auricle in those cases where the left ventricle was not notably enlarged. Besides, the tension in the left auricle is considerably less than in the pulmonary artery necessarily, and therefore its power of flattening this must be small. At the same time I quite agree with Dr. Russell that mitral regurgitation is by no means essential to the production of high tension in the left auricle. All that is required is that the left ventricle, from its debility, should be incapable of emptying itself during systole, and that it is so incapable we have absolute proof in the small pulse of debilitated subjects.

The tricuspid murmur has for its causes: (*a*) The increase in the circumference of the valve ring, which is one result of the general giving way and enlargement of the right ventricle. This is more especially the case, as the valve ring is situated at a portion of the right ventricle, which we have seen is liable to disproportionate stretching. (*b*) Professor Roy and Mr. Adami, in their valuable and extremely suggestive papers in the *Practitioner* for 1890, have shown that the musculi papillares acted independently of the heart walls; further, that with high tension the contraction of the wall is somewhat delayed, whereas the papillary muscles contract as sharply as ever. When the right ventricle is dilated, one would judge that its walls similarly procrastinate their contraction; moreover, the bases of the papillary muscles are further than normal from the valve plane. If, then, these begin their contraction before the walls of the ventricle, we can easily see that at the commencement of this latter contraction the valve flaps might be too far pulled down into the cavity of the ventricle, and hence regurgitation might ensue till the ventricle had contracted sufficiently to allow the valve flaps to reattain their proper position. (*c*) There is the change in the angle of the plane of the valve to the axis of the ventricular outflow, which change, as was shown in the case of the pulmonary valve, will tend to produce a murmur if any outflow, owing to the action of (*a*) and (*b*), take place. (*d*) Hesse and Ludwig have shown that the circumference of the base of the heart during diastole is to its circumference during systole as 13 to 7·2. This change is due to muscular contraction. In debility it seems more than probable that this contraction is less marked; that is, the auriculo-ventricular openings are less diminished in area than is the case in systole of the normal heart. Here, then, would appear to be a further cause of regurgitation.

The mitral murmur is by far the least common of the three: it is very seldom a prominent one. I think dilatation of the ventricle is rarely its cause; it certainly cannot be in that large proportion of cases of functional apical systolic murmur where the position of the apex beat is not displaced downwards or outwards. Its most frequent causes are: (*a*) Lack of due systolic contraction of the valve ring; (*b*) want of due coördination between the musculi papillares and the ventricle walls. This latter has been shown to occur by Professor Roy and Mr. Adami with large doses of strophanthus, and they suggest that in certain diseased conditions it may also arise. This incoördination may act in two ways: it may cause regurgitation at the commencement of the systole by shortening the tendinæ before the ventricle has shortened, or by the musculi finishing their contraction too soon and lengthening when the ventricles are shortest, and so inducing regurgitation by allowing the valves to penetrate too far into the auricle. Probably this latter incoördination is the more common, for very often a short systolic apical murmur is heard following immediately the first sound and before the second.

Birmingham.

[6] Vide W. Russell. Investigations into some Morbid Cardiac Conditions, p. 37, et seq. In two patients at the Queen's Hospital who died of pneumonia, and in whom there was no cardiac lesion except right-sided enlargement, I found the pulmonary valves in the one to be beneath the second left cartilage, and in the other beneath the first space.

[7] This bifurcation is practically a fixed point, for the descending arch of the aorta lies in its fork. To the aorta it is fastened by the ductus arteriosus; it has attachments to the pericardium, and its two branches are fixed by the roots of the lungs.

[8] This is almost impossible to prove by direct evidence, as post mortem the active distension of the cavities is absent; but I have found it to be so when acting on the heart of a debilitated subject experimentally—that is, by forcing water by means of a syringe into the right ventricle, having previously tied the pulmonary artery.

A CASE OF SUCCESSFUL REMOVAL OF A FRAGMENT OF STEEL FROM THE RETINA BY MEANS OF THE ELECTRO-MAGNET.

BY J. TATHAM THOMPSON, M.B.,
OPHTHALMIC SURGEON TO THE CARDIFF INFIRMARY AND TO THE SOUTH WALES INSTITUTE FOR THE BLIND, CARDIFF.

THE patient, D. T. J——, a blacksmith, was sent to me on Dec. 10th by Mr. Shaw Lyttle of Pontypridd, with the following history. On Dec. 8th, two days before his admission, he was engaged at the colliery stamping some new tools by means of a steel stamp and hammer, when a fragment of steel flew off and struck him on the left eye. He at once went to the foreman and asked him to see if the piece of steel was in the eye. The foreman "wiped a drop of blood from the white of the eye, but could see nothing there." He had little pain, and little or no disturbance of vision. Two hours after the accident he saw his club surgeon, Mr. Shaw Lyttle, who reported that he found a small clean cut in the sclerotic at the inner side, just beyond the ciliary region. He failed to make out the presence of any foreign body. The next day (Dec. 9th) he had dull pain in the injured eye and a good deal of haziness in the sound one, which next day increased, and was accompanied by slight photophobia. Mr. Lyttle then sent him to me at the Cardiff Infirmary. When examined there, the left eye showed general congestion of the conjunctiva, with slight ciliary congestion; pupil regular, dilated with atropine;

tension normal; vision $\frac{20}{100}$. The right eye showed signs of irritation, but its vision was fully $\frac{20}{20}$. He complained of a dull pain in the left eye and a slight photophobia. The wound of entrance could be easily made out just beyond the ciliary region at the inner side. On ophthalmoscopic examination the right eye exhibited no abnormality, except hyperæmia of disc and retina. In the left eye the lens was perfectly clear, but across the vitreous were a few fine opaque striæ running obliquely upwards and backwards. Following these up, the foreign body was at once recognised partially embedded in the retina and choroid at the upper and outer part of the fundus. Immediately surrounding its base was seen some lymph exudation, but this only covered about one-third of the amount of steel protruding. Surrounding this were several patches of hæmorrhage. The patient not having been prepared for an anæsthetic, no steps were taken that day. The eye was dressed antiseptically, and a light compress applied. The next day (Dec. 11th), the situation having been explained to the patient, and his permission obtained to remove the eye if the attempt at extraction failed, he was put under the influence of ether by Mr. Thomas, the senior house surgeon. The original wound was reopened by means of a Graefe's cataract knife, and the curved pole of the electro-magnet introduced. This was then passed across the vitreous in as nearly as could be judged the direction originally traversed by the foreign body. On the first withdrawal nothing appeared; but a second attempt, in which the pole was passed still further, ended in the fragment of steel passing easily through the opening "in tow" of the magnet. Only a small bead of vitreous presented, and this was snipped off with scissors, and the eye carefully douched with solution of perchloride of mercury of about 1 in 3000, dusted with fine iodoform, and an elastic compress of perchloride wool applied over the closed lids. The patient passed a good night, and next day expressed himself as quite free from pain. The right eye no longer showed any photophobia, and he stated that its vision had perceptibly cleared. On removing the bandages there was remarkably little congestion of the conjunctiva; the ciliary congestion had disappeared, but the pupil was dilated irregularly. There was no discharge, and no presentation of vitreous at the wound, which was apparently closing. The patient showed very little photophobia, and was able to count fingers at about six feet. The eye was douched, atropine instilled, and the dressings again applied. Each day the vision improved, and the patient showed no bad symptoms. On Dec. 18th his vision was $\frac{20}{15}$; tension normal; and with + 2 dioptres he could read Jaeger's No. 12 types; no pain and no photophobia. He was dismissed from the infirmary on the 23rd, but did not at once resume his employment. At that time ophthalmoscopic examination showed very slight vitreous opacities, and peculiar striæ, apparently caused by transparent fluids of a different density occupying the track of the electro-magnet pole and foreign body. These gave rise to some irregular astigmatism. The patient was last seen on Jan. 23rd, or forty-three days after the injury, and thirty-nine days after the removal. He had resumed his work; had only once felt any pain, and that in the middle of the night, and of a neuralgic type. His distant vision then was—right eye, $\frac{20}{15}$; left eye, $\frac{20}{20}$; and he read Jaeger 4 with the left eye, Jaeger 1 with the right. Examined ophthalmoscopically, the vitreous opacities had almost disappeared; the point where the steel had lodged in the retina could be readily detected by the white patch of atrophy and exudation, and from this point there could be seen projecting forwards into the vitreous a fan-shaped series of fine strands, apparently of lymph, which were probably those surrounding the foreign body at the time of its removal. The fields of vision were tested with the M'Hardy perimeter, and whilst the right was normal, the left showed a diminution of the field peripherally below and to the outer side, corresponding to the atrophic area described above, and involving about one-eighth of the field.

So far as can be ascertained, the only cases previously recorded of successful removal from the retina are those of Galezowski and Hirschberg. The electro-magnet used was a modification of Snell's, made to the writer's designs by King, Mendham, and Co. of Bristol; and the battery employed consisted of two bichromate of potash cells of one quart and one pint capacity. The fragment, which was quite bright and clean, weighed 0·0096 gramme.

Cardiff

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

OXALURIA AND HÆMATURIA.

BY FRANCIS D. BOYD, M.B., M.R.C.P.

OF the clinical significance of the excretion of oxalate of lime in the urine in the condition described as oxaluria very little is known. Numerous cases of so-called cyclical albuminuria, accompanied by oxaluria, have been described in THE LANCET, in which by some authors the albumen was ascribed to irritation of the kidneys by the crystals of oxalate of lime. That some of the albumen in those conditions is derived from the urinary tract is highly probable, but the following case seems to support the view that the excretion of crystals of oxalate of lime does irritate the kidneys in some cases.

Mrs. M——, a young woman of a very rheumatic history, was taken ill during the night of July 20th with severe pain in the lumbar region. She likewise had headache and felt very feverish. Next morning the pain was easier, though the headache was still present, and she noticed that her urine had become of a bright-red colour. There was no pain on micturition. I saw her on the following day; she was then complaining of headache. Pain in back still present; no œdema. First sound of heart loud and accentuated. Pulse 100, full, and of rather high tension. Urine faintly acid, containing blood in large quantities and albumen. Under the microscope the deposit was seen to be composed of blood-corpuscles, crystals of oxalate of lime, and numerous tube casts containing epithelial and blood cells, oxalate as well as crystals. On inquiry I found that for three days before the attack the patient had been partaking largely of rhubarb, which she said she knew never suited her. She was directed to take nothing but milk, to rest in bed, to keep the bowels freely open with Friedrichshall water, and nitro-hydrochloric acid was prescribed. On the following day there was marked improvement. The pain in the back was gone, the blood and casts were decidedly diminished, and urine was passed in larger quantity than formerly. The oxalates were still present. By July 26th the blood, albumen, and casts had entirely disappeared, and the patient was feeling quite well.

In the *Monthly Journal* for August, 1849, Begbie describes certain cases of what he terms the oxaluric diathesis, but in none of his cases, though there was pain in the back, does there seem to have been kidney irritation produced. The passage of the oxalates in the case above quoted differs from his, in that the oxalic acid seems to have been absorbed directly from the stomach, and not to have been produced during the process of digestion and assimilation. That there was in this case a true nephritis I think there can be no doubt from the presence of the casts, and the oxalate of lime crystals seem to be the cause, and not a mere concomitant.

Edinburgh

UNILATERAL TEMPERATURES.

BY J. A. AUSTIN, M.D.

THE following facts are interesting in regard to the theory of specific thermic centres in the brain.

Mrs. C——, primipara, aged twenty-six, married, was confined on Sunday, Oct. 4th. The patient is remarkable for her cool, unexcitable temperament. Labour was normal, and the case progressed without one bad symptom till the following Saturday, even the infant exhibiting a disposition to take things easily, so unlike new-born cherubs. On the Saturday, however, there was a temperature of 102° in the right axilla; pulse 80; skin cool; respiration easy; lochia and milk normal; no constitutional disturbance whatever. The temperature was then taken in the left axilla, and it was normal. The following day the thermometer registered 104° in the right axilla; normal in the left. On Monday it

fell again to 102°, and on Tuesday it was normal on both sides. From beginning to end the patient was singularly free from bad symptoms, and made an uninterrupted recovery.

A singular case of unilateral temperature was reported from the Edinburgh Infirmary a few years ago in a hysterical girl, the thermometer registering as high as 110° in one axilla, while the other showed a normal temperature. The hysterical element was not a factor in this case, however, and it is difficult to account for the freak unless abnormal placidity of temperament has a disturbing effect on our newly discovered friends the thermic centres. The practical lesson, however, is to take the temperature in both axillæ and under the tongue in doubtful cases, keeping in view the possibility of variation.

West Norwood.

CASE OF PUERPERAL ECLAMPSIA TREATED WITH ANTIPYRIN.

BY F. CRADDOCK PALMER, M.D. BRUX., M.R.C.S., &c.

ON Aug. 13th, 1890, I was called to see Mrs. T——, aged twenty-eight, six months and a half pregnant, primipara Her husband told me his wife had always enjoyed good health until a few weeks ago, since which time she had had swelling of face, hands, and legs, and the last day or two had complained of headache and had passed very little urine. On returning home soon after 6 P.M., he found her lying on the floor, partially undressed, quite unconscious, with blood oozing from her mouth. On my arrival, soon after 7 P.M., I found her just recovering from a fit. Her tongue was very much swollen, and had been bitten. She was quite unconscious, pupils widely dilated, pulse 98, and face and extremities much swollen. On examination I found the os uteri contracted. She had passed about four ounces of urine, which I afterwards examined and found to be almost solid with albumen. Shortly after my arrival she had severe convulsions, and as soon after this as it was possible I put fifteen grains of antipyrin on her tongue, and directed another dose to be given her in four hours' time. On Aug. 14th the nurse told me that the patient had had seven fits during the night, but none since 2.30 A.M., and only one, and that a slight one, since the second powder was given. She had passed urine in the bed. At 10 A.M. she was sleeping quietly, pulse 70, and when roused I found her to be in a semi-conscious condition. The child was alive. I prescribed purgatives and milk diet. She improved daily, and two days after I prescribed iron. I examined her urine on Aug. 24th, and found only a trace of albumen. After this she apparently got well, but on Sept. 23rd I was called to her, as she had had another fit. I saw her before she had regained consciousness, and as soon as I was able gave her fifteen grains of antipyrin. She had no more attacks. I examined her urine and found it contained albumen, but not so much as in the previous attack. She went on well until Oct. 24th, when she was confined and had a normal labour, excepting that the child was still-born and had been dead for some time. She made a good recovery after this.

Remarks.—The above case is interesting, as I believe it is rarely one has the opportunity of seeing a recurrence of eclampsia during the same pregnancy. Whether the antipyrin had anything to do with the mitigation of the fits I cannot say, but it certainly reduces blood-pressure quickly, and I cannot find any mention of its having been given in cases of eclampsia before.

Woking.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—At a quarterly court of the directors of this Society, held on Wednesday, Oct. 14th, the President (Sir James Paget) in the chair, it was resolved to distribute £1420 at the next court to the sixty-four widows and twenty orphans applying for assistance. Fresh applications were read from two widows and six orphans, and relief was given them. The expenses of the quarter were £63 14*s.* 6*d.* A legacy of £20 from a deceased member was announced. One new member was elected, and the deaths of six reported by the secretary, as well as the death of a widow who had been receiving £50 per annum since June, 1873.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Proœmium.

ST. THOMAS'S HOSPITAL.

CONCUSSION OF THE SPINAL CORD; RECOVERY; REMARKS.

(Under the care of Mr. CLUTTON.)

THE account of this case is a useful contribution to the literature on spinal injuries, forming another link in the chain of evidence in favour of the occurrence of concussion of the spinal cord independently of discoverable lesion of the canal in which it is placed. Mr. Page[1] writes: "There is scanty proof of the liability of the spinal cord to suffer from concussion pure and simple in the absence of simultaneous injury to the spinal column, the exceptional cases being extremely rare." Professor Erb,[2] in writing on the subject of spinal concussion, says: "Slight changes, small capillary extravasations, &c., probably exist in such cases, but they do not seem to constitute the proper essence of the disease; for the most part the anatomical change is quite negative, and we do not know yet what changes, if any, constitute the basis of the concussion proper. The most common view, therefore, is that which supposes only molecular changes in the finer nerve elements to have occurred, giving rise either to an immediate and complete functional paralysis of the latter, or forming the commencement of further disturbances of nutrition, which at a later time may result in degenerative inflammation. The first thing consists in collecting accurate reports of cases." The points in this case to which special attention is directed are the absence of insensibility, the immediate appearance of an extensive and complete paralysis of motion, the comparatively rapid recovery of power, and the absence of later symptoms. For most of the following notes we are indebted to Mr. E. C. Stabb, surgical registrar.

C. S——, a labourer, aged sixty-seven, was admitted on March 18th, 1891. Fifteen hours before admission, on returning home at night the worse for liquor, he fell down a flight of stairs. He remembered the fall, but could not say how it happened. He did not lose consciousness, but found that he could not move his legs, and remained in the same position till the next morning.

On admission he was a healthy-looking man, complaining of slight pain in the cervical region of the spine, and loss of power in the legs. On examining the spinal column, nothing was discovered. There was no tenderness, no irregularity, and no bruising, but he pointed to the lower cervical spines with his hand to show where he felt pain. Manipulation and pressure at that spot and on the head did not seem to hurt him. He could move his head and spine in any desired direction without pain. There was a small hæmatoma on the vertex. Both legs were completely paralysed, but a few muscles in the upper part of both thighs could be seen to act slightly when he tried to raise his legs. They produced, however, no visible effect on the position of the limbs. Sensation over the legs, thighs, and trunk was normal, or possibly very slightly impaired. The superficial reflexes, such as the plantar and cremasteric, were absent, but the knee jerks were present, and brisk. His mental condition was perfect, and the upper extremities were in no way affected. Respiration was entirely diaphragmatic, the lower ribs being drawn in at each inspiration. His bowels had acted involuntarily, and he had retention of urine. Temperature 99·8°. Mr. Clutton examined him most carefully, and could find no evidence of any local injury to the spinal column.

March 19th (day after admission).—He could move his legs slightly, but the intercostals were still paralysed, and he had retention of urine. Evening temperature 102·4°. Reflexes normal.

[1] Injuries of the Spine, p. 74
[2] Ziemssen's Cyclopædia of Medicine

20th.—Could draw his legs up in bed, and the intercostals were acting slightly. He improved daily from this time, and could pass urine without the catheter.

24th.—He wished to leave the hospital to-day, as he was quite sure he could walk. He was allowed to try. He could move his legs, but so unsteadily that he had to be supported. Still, he walked a few steps in this manner. Temperature normal. On this day he drew attention to the fact that his right arm was weaker than the left, and was quite sure that the weakness came on in the previous twenty-four hours.

30th.—Complained of numbness in legs, but there was no loss of sensation or increased loss of power. Reflexes, superficial and deep, normal. Temperature subnormal. Right arm still weaker than the left.

April 7th.—Up and about the ward, but walked unsteadily.

13th.—Left the hospital.

15th.—Came as out-patient; walking alone with a tottering kind of gait. Right hand improving.

22nd.—Examined by Mr. Lawford, who stated that there were no signs of optic neuritis past or present. Suffers from constipation.

July 8th.—Much improved. Walked quite steadily, but said that his thighs still felt stiff. Right arm and hand quite well. Still complained of constipation.

Remarks by Mr. CLUTTON.—This case is of some considerable interest, although no post-mortem examination took place to verify the actual lesion which produced the symptoms. The interest is further emphasised by the fact that doubt, if not absolute scepticism, exists in the minds of many surgeons as to whether it be possible for a man to receive such an injury of the spinal cord as was present in this case without a definite and corresponding injury of the spinal column. It is only by publishing such isolated cases that any conclusion can be drawn, as one cannot expect to prove the point at issue in all cases by a post-mortem examination. One word as to the use of the term "concussion." I freely admit its unscientific nature, but its convenience in the absence of a post-mortem examination is obvious. It is, after all, only following the practice which is usually adopted in describing injuries of the brain, for "concussion of the brain" undoubtedly includes contusion and laceration of the brain substance. It is a mere accident whether the part injured contains a localising centre which will demonstrate the lesion in the function of the body. If it does not show such evidence of the part injured, concussion is generally the word used to describe the case. The point at issue is whether concussion, contusion, or laceration of the spinal cord, or hæmorrhage into its substance, can take place without any structural lesion of the spinal column. For in this case no question arises at present of the secondary changes, about which there has also been a considerable difference of opinion.

PRESTON INFIRMARY.

A CASE OF BELLADONNA POISONING; RECOVERY.

THE amount of extract of belladonna taken in the following case was unusually large, and the symptoms were proportionately severe. It illustrates the beneficial effects, in poisoning by belladonna, of pilocarpine when given subcutaneously and when combined with careful washing out of the stomach by means of the stomach pump. We published in THE LANCET of last year[1] the account of a case under the care of Dr. McGowan of Maghera, where the patient had taken a tablespoonful of the linimentum belladonnæ, B.P. Her condition was a most serious one. "She was totally unconscious and breathing stertorously; there were frequently recurring convulsions; the pupils were widely dilated so that there was only a ring of iris, and they were not influenced by the light; the extremities were cold, the heart greatly excited and weak, and the pulse scarcely perceptible at the wrist. She presented all the appearances of approaching death." She recovered after washing out of the stomach. Apomorphine having failed to cause vomiting, a one-third grain of pilocarpine was given subcutaneously, stimulants by the mouth, and another dose of pilocarpine. For the notes of the case we are indebted to Mr. W. Oliver, senior house surgeon.

B. S——, aged forty-three, married, was admitted into the infirmary in a semi-comatose condition, having swallowed about an ounce of equal parts of extract of belladonna and glycerine. The patient was pale and cold, retching, but not vomiting; respiration sonorous; pulse 130, weak, and compressible; no delirium. The pupils were widely dilated, and the lower extremities in a condition of tetanic spasm, which was aggravated by touching the conjunctiva, passing the tube of the stomach-pump, and at every withdrawal of fluid from the stomach. The jaws were firmly clenched, so much so that they had to be forced open by a wedge. The tongue and throat were hot and dry. After various attempts to get the patient to swallow emetics without avail, the stomach was washed out with a solution of tannic acid. The contents had a distinct odour of belladonna. The patient gradually passed into a condition of unconsciousness, with Cheyne-Stokes breathing, and extension of the spasms to the upper extremities. This continued for two hours. One-fifth of a grain of pilocarpine was given hypodermically on admission, and one-tenth of a grain repeated at intervals of two hours with decided effect. The respiration became quiet, pulse slower and stronger, and the spasms gradually disappeared. The bowels did not respond to purgatives or enemata for five days; there was also retention of urine. The patient was discharged cured at the end of ten days.

[1] Vol. ii., p. 175.

GLASGOW ROYAL INFIRMARY.

A CASE OF HYPERPYREXIA IN ACUTE RHEUMATISM; TREATMENT BY COLD BATH, ETC.

(Under the care of Dr. ALEX. ROBERTSON.)

THE following case of hyperpyrexia is of interest as showing the rapid and successful employment of the bath treatment. The complication developed, as is most common, during a first attack in a young adult, and was preceded by cerebral excitement. That the attack was severe is proved by the high temperature registered by the thermometer in the axilla, and it may be recollected that of the twenty-four cases of recovery out of forty-six collected by the committee of the Clinical Society, in only one was the temperature above 106°. The joint lesions persisted in nearly half the cases collected by the same committee; therefore the theory of metastasis, of inflammation to the brain, as a cause of the condition does not receive much support.[1]

J. M——, aged twenty-nine, a labourer, was admitted on Sept. 9th, 1891. He was a fairly healthy man till the occurrence of his present illness. He has not had syphilis, but has been addicted to excesses in alcohol. A week before admission, after getting wet, diarrhœa began to trouble him, and continued in a mild form till Sept. 7th, when his knees got sore, and next day the ankles, wrists, elbows, and shoulders were all more or less red and swollen. With the exception of the elbows, the larger joints were much improved when he entered the hospital, but the joints of the fingers had become red and painful. The first sound of the heart was accentuated at the apex, but otherwise appeared to be normal. The urine was acid, sp. gr. 1026, with a trace of albumen. Temperature in the axilla, 100·2° F. There was moderate acid perspiration. Twenty grains of salicylate of soda were prescribed, to be taken every three hours.

Sept. 12th (note by Dr. Robertson).—Yesterday at the visit (11 A.M.) it was found that though the medicine had been given every three hours as ordered, the temperature had risen from 100·8° at 8 P.M. on the 10th to 102° at 4 A.M. on the 11th and to 102·6° at 8 A.M. The patient said that he was absolutely free from pain, and wanted to get out of bed. His aspect was excited and nervous. There was some, but not excessive, perspiration. Ten grains of sulphate of quinine were prescribed, to be repeated in an hour. Should the temperature continue to rise after the quinine, two grains and a half of antifebrin were ordered to be given every hour, with a dessertspoonful of brandy if the pulse got weaker; and in the event of the temperature still increasing and exceeding 104°, the cold bath was to be used, beginning at 90° and rapidly reducing the temperature of the water to 60°; it was to be continued for from

[1] See Dr. A. E. Garrod's Treatise on Rheumatism.

ten minutes to a quarter of an hour, according to the effect. These were the instructions at 11 A.M.; but the quinine only was given, for at 2 P.M. the temperature in the axilla had risen to 106·8°, the nervous excitability had increased, and there was some delirium. He was then put into the bath at 90°, but difficulty was found in adding cold water, so that the reduction was only to 71°. Dr. McGregor, the house physician, therefore continued the bath for twenty-five minutes. The thermometer under the tongue while the patient was in the water fell to 101·4°, and he was then removed to bed. In five minutes afterwards it had further fallen to 97·2°. Dessertspoonfuls of brandy were given on three occasions while in and shortly after removal from the bath. Since then he has had four twenty-grain doses of the salicylate of soda. Pulse this morning is 100, full, soft, and compressible; it fell from 160 to 120 while he was in the bath. No pain is felt in any joint. There is a moderate amount of slightly acid perspiration. Urine is clear and straw-coloured; deposits no sediment; shows a slight trace of albumen, is decidedly acid, and its specific gravity is 1011. Tongue is dry and red. The temperature, which was taken every half hour after the bath till twelve last night, had risen to 101·2° at 5 P.M., and to 101·6° at 7.30 P.M.; at midnight it was 101°. Thereafter hourly observations showed a range from 100·2° to 100·8°, its present point. Pulse has fallen to 84. There is a roughness and abruptness of the first sound of the heart suggestive of obstructive mitral disease. Ten grains of quinine was now prescribed every two hours and afterwards every six hours.

After this the progress of the case, except in one point, was very satisfactory. The temperature slowly fell, till on Sept. 14th it had become normal, and it has continued so till now (Oct 13th). There has been no recurrence of pain in swelling of the joints. The only drawback is the condition of the heart. There is a short but well-marked presystolic murmur at the apex, accompanied by a thrill. His rheumatism has induced organic mitral disease.

Remarks by Dr. ROBERTSON.—The entire subsidence of the joint affection, with absolute freedom from pain when the mere disposition to hyperpyrexia arose, was very striking. The state of the urine was remarkable. Instead of the heavy, brick-dust looking deposit so common in acute rheumatism, there was a clear straw-coloured secretion of rather lower specific gravity. There seemed to be a sudden check at least in the elimination, and probably also in the formation, of those waste products which are so freely excreted in most cases of this disease. Usually in cases where hyperpyrexia occurs, there is no cardiac complication, but it was not so in this patient, as organic disease developed and continues. It is worthy of note that the valvular inflammation arose, or at least became manifest, under the use of the salicylate of soda. It will be observed that the perspiration did not cease when the temperature was rapidly rising. With respect to the treatment, antifebrin was ordered, but not given. About a year since in a similar case, except that the fever-producing tendency of the system was not nearly so marked, this drug was administered in hourly doses, and the temperature fell from nearly 105° to about 100° in the course of a few hours, the patient ultimately making a good recovery. I do not think it would have succeeded in the present case. The very rapid increase of temperature to so high a point showed such a tendency to fever as would not likely have been checked by any agent of that kind, unless, perhaps, by the use of doses that would have been dangerously depressing. The fall of temperature from 101·4° to 97·2° within five minutes after removal from the bath is instructive, suggesting caution in the use of this powerful agent.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Presidential Address.—Median Harelip.—Tubercular Disease of Tunica Vaginalis after Tuberculosis of Testis.—Myxœdema with Laryngeal Tuberculosis.—Rupture of Liver.—Hypertrophy of Pylorus in an Infant.—Cystic Disease of Breasts.—Structure of Callus.

THE first ordinary meeting of this Society was held on Oct. 20th, the President, Sir George M. Humphry, being in the chair.—The President delivered a short inaugural address, which will be found in full in another part of our present issue.

Dr. DICKINSON, the immediate past President, proposed a vote of thanks to Sir George Humphry for his address, which he characterised as remarkably comprehensive, its more important part pointing to the future. He was pleased to find, however, that the more ancient study of morbid anatomy was not to be neglected. The vote was carried by acclamation, and the President consented to its publication in the Transactions of the Society.

Mr. CLUTTON exhibited a living specimen of Median Harelip. The girl, aged fifteen, who had never been submitted to any operation, had a small notch exactly in the middle line of the upper lip. The alveolus of the upper jaw immediately beneath and exactly in the middle line was also cleft. The palate was ununited from one end to the other. There were no central incisors, but there was a lateral incisor and a canine on each side; fifteen months before three teeth had been extracted from the front of the jaw, the nature of which could not be ascertained. Mr. Sutton's Lectures on Evolution in Pathology were referred to, where a specimen of this condition had been ascribed to an absence of the pre-maxilla. Mr. Pitts was also stated to have shown a case at the Medical Society in 1889, in which there was a median harelip and a central groove in the bone beneath. Mr. Clutton was inclined to think that in his case the pre-maxilla was present but ununited.—Professor HUMPHRY remarked on the curious way in which the skin passed from the surface into the depth of the cleft. It was wonderful how often there appeared to be difficulties in the way of the proper formation of this part of the body in both man and animals, especially in pigs. He added that the mode of development of the superior maxilla was a matter extremely difficult to follow.—Mr. SUTTON agreed that the malformation in this case was like that normally found in the hare and kangaroo. It was a rare instance of want of fusion of the globular processes in the middle line. Albrecht's view was that there were two centres of ossification for each pre-maxilla, and that in a case like the present the two inner centres were absent. He believed that the case stood by itself.

Mr. BERNARD PITTS brought forward a specimen of Tubercular Disease of the Tunica Vaginalis after Tuberculosis of the Testis. The specimen was taken from a boy aged five, who was admitted into St. Thomas's Hospital on April 21st, 1891, with a large right inguinal hernia. An operation for radical cure was undertaken, and when the testicle was explored it was found to be enlarged and had several tubercular nodules on the surface. It was accordingly removed with its sac. Whilst the child was under an anæsthetic several hard nodules could be felt in the abdomen above and to the left of the umbilicus. General peritonitis followed the operation, but the wound healed without suppuration, and the child had left the hospital, convalescent, on June 7th and had continued in good health. A section, for microscopical examination, through the testicle and epididymis showed tubercular nodules on the visceral layer of the tunica vaginalis and on the lower part of the sac. At one spot on the testicle these nodules were confluent and gave an appearance very similar to that of hernia testis. The spermatic cord and epididymis were normal. The nodules were tubercular in nature. The author had at first considered the testicle to be the primary seat of the disease, but after the microscopical examination it would appear that the testicle was invaded from the surface and was secondary to some tubercular disease within the abdomen. In the second case there was no doubt that the disease had extended from the abdomen to the hernia. The history of this case was as follows:—A lad aged eighteen was admitted into St Thomas's Hospital on Dec. 19th, 1889, with a large irreducible inguinal hernia on the left side, and a small inguinal irreducible hernia on the right side. The abdomen was swollen and tender and the hernial swellings very painful. On exploring the left hernia a mass of adherent tubercular omentum was found which was commencing to break down. A similar condition was found also on the right side. The abdomen was then opened in the middle line, and the intestines were found to be matted together by tubercular disease. The wounds healed readily, and the abdominal symptoms were considerably relieved. He died three months later of general tubercular disease.

Dr. HECTOR MACKENZIE showed a specimen of Tubercular Disease of the Larynx from a case of Myxœdema.

The patient was a woman aged thirty-eight, who for some five years had been ailing, the ordinary symptoms of myxœdema having gradually developed. At one time there was said to have been great swelling of the abdomen, face, &c. She had the typical slowness of movement, thought, and perception. While in the hospital she suffered from hallucinations at night. After about a fortnight she died suddenly, directly after a meal. At the necropsy the flush on the cheeks had quite disappeared, the face being pallid. There was no œdema anywhere present. The lungs were very extensively affected with phthisis. The right was nearly entirely consolidated, and presented combined fibroid, caseous, and broncho-pneumonic changes. There was also pleuritic tubercle. The larynx was much swollen. The epiglottis was thickened and ulcerated on its under surface. There was uniform swelling of the ary-epiglottic folds. The uvula and fauces were also œdematous. At the commencement of the œsophagus the mucous membrane was studded with small white bodies, probably tubercles, and there was some superficial ulceration. In the upper part of the trachea there was some cheesy-looking substance, probably some of the food which she had been eating at the time of death. The thyroid gland was very small, pale, and flabby; the liver was large, weighing nearly sixty ounces, but otherwise seemed normal; the spleen was large and soft; the kidneys were normal. There was a slight deposit of urate of soda in the great-toe joints. The interest of the case was twofold—first, in the absence of œdema at the post mortem; and second, in the association of the disease with tuberculosis. The association of tubercle with myxœdema was not a new one. A family history of phthisis was found in twenty out of seventy-five cases reported on by the committee of the Clinical Society, and tubercle was found in at least three out of the fifteen cases on which the pathological portion of their report was founded. Myxœdema could therefore certainly not be included among the diseases, if any such existed, naturally prophylactic to tubercle. The number of recorded cases was, however, too few to deduce any conclusion as to whether it predisposed to tubercle. It would be interesting to know whether cretins were liable to tubercle. It had been stated that tubercle was almost unknown among patients affected with goitre. If this were so, the presence of tubercle in myxœdema was especially interesting.

Mr. EDGAR WILLETT showed (by permission of Mr. Thomas Smith) a specimen of Ruptured Liver. The patient lived four days. At the necropsy the rent was found to be closed by a recent clot. Death occurred from peritonitis, set up mostly by the escaped bile.

Dr. NEWTON PITT showed a specimen of Hypertrophy of the Pylorus in an infant seven weeks old. The child was well till three weeks and a half before its death, when it commenced to vomit, and it had constipation. Under Dr. Goodhart's care this was relieved for a time, but, in spite of the most careful dieting, the vomiting returned and continued until its death. At the inspection the stomach was empty, but it retained its shape owing to the density and hypertrophy of its wall. The pylorus formed a mass 1 in. long and $\frac{5}{12}$ in. thick, formed of hypertrophied muscle. The duodenum was bent sharply on the pylorus. The bile-duct and the intestinal canal were otherwise normal. The hypertrophy of the gastric wall indicated that there had been some partial obstruction at the pylorus, but no cause beyond the flexure could be discovered. It was most improbable that this flexure was of any material importance. The explanation of the case was therefore obscure, and Dr. Pitt was not aware of any similar case having been recorded.

Mr. RAYMOND JOHNSON brought forward a case of Cystic Disease of Both Breasts. The patient, a single woman aged thirty-three, was admitted into University College Hospital, under the care of the late Mr. John Marshall, in the year 1877. The left breast was excised; it was the seat of extensive cystic degeneration, and several of the largest cysts contained polypoid growths. In 1882 the right breast was excised for a similar condition. In 1889 the patient came under the care of Mr. Marcus Beck with a movable, rounded swelling above the middle of the scar, in the left mammary region. It had been slowly forming for two years. It was excised, and found to consist of two cysts containing papillomatous growths. Around the cysts were groups of glandular acini undergoing cystic change. Mr. Johnson insisted that the case was one of cystic degeneration, and that the application of the name "cystic adenoma" to such cases was pathologically incorrect. Reference was made to the view that the adenomatous tumours of the mamma arise as intra-cystic growths. The following points were advanced as suggesting that this was not the usual mode of origin. The tumour was usually solitary and peripheral; there was very rarely any history of discharge from the nipple in such cases; and, lastly, the commonest age for adenoma—from twenty to thirty—was unusual for the occurrence of cystic disease. Mr. Johnson had unsuccessfully attempted to demonstrate an epithelium on the inner surface of the capsule of adenomata, which should be present if the capsule were really a cyst wall. The chief point of interest in the case before the Society was the recurrence of the disease after an interval of ten years. This recurrence could only be explained as the result of cystic change in a remaining fragment of breast tissue. Such fragments of the gland were probably frequently left in the operation of excision of the mamma, especially at the points where the gland was intimately connected with the skin by the suspensory ligaments of Sir Astley Cooper.

Mr. CHARTERS SYMONDS exhibited microscopical sections taken from the callus of simple fractures to demonstrate the process of ossification through cartilage. The first and principal specimen was derived from an impacted extra-capsular fracture in a patient aged seventy-two, who died five weeks after the injury. It showed trabeculæ and embryonic cartilage, at the margins of which ossification was proceeding as in the embryo. The amount of the cartilage in the specimen, the author contended, indicated that it was not an accidental formation, but represented a true stage in the process of repair. This specimen was obtained in 1880, and was used by the author in his morbid histology classes in 1883 to illustrate repair of fractures. The second was from an impacted extra-capsular fracture in a patient aged seventy-nine, who died two months after the injury. This showed remnants of cartilage in the new bony trabeculæ. The smaller amount, it was suggested, was probably due to the more advanced condition of the union. The other two examples were derived from old museum specimens of a fracture of the femur and of the tibia. In the former the proliferation of the cartilage with the formation of cellular spaces, the advance of the osteoblastic tissue from the older bone, and the presence of multi-nucleated cells, were all well shown. The union in this specimen was much less advanced than in the tibia; the fracture was three months and a half old. In the tibial specimen cartilage existed in small amounts in the centre of the trabeculæ. The cartilage was found in the new tissue derived from the periosteum, but was not seen in sections taken from the medullary part. This difference, it was thought, might have been due to incomplete examination. In conclusion, Mr. Symonds thought the specimens fully demonstrated that ossification in simple fracture proceeded, in part at least, through a cartilage stage. He considered the definite arrangement of the cartilage and its abundance evidence of its importance. This substance he had found as isolated masses in the periosteal deposits in compound fractures, and that round exposed bone, as in a stump, where it might be looked upon as part of the return to the embryonic type. He quoted Cornil and Ranvier, who alone seemed to describe the ossification through cartilage in the simple fractures of adults. These authors suggested that the statement of its absence in adults was due to the observations having been made on cases of compound fracture alone.—Sir GEORGE HUMPHRY said that the precise method of ossification in fœtal bones was hard to follow. So also was that of reunion of fractures.—Dr. CHARLEWOOD TURNER said that some years ago, when microscoping a section of simple fracture from a child, he found quite a large proportion of cartilage. He thought the general opinion at present was in favour of admitting the fact that simple fractures united for the most part through cartilage.—Dr. WM. HUNTER mentioned the fact that cartilage was frequently found capping exostoses, and it was difficult to decide in these cases whether or not the growth was enchondromatous.

The following card specimens were exhibited:—

Dr. HECTOR MACKENZIE: (1) Malformation of Uterus; (2) Ulceration of Larynx in Typhoid Fever.

Dr. CHARLEWOOD TURNER: Destructive Adenoma of Stomach, with Thrombosis of Right Innominate Vein.

MEDICAL SOCIETY OF LONDON.

Presidential Address.—Treatment of Compound Fractures into Joints by Means of Corrosive Sublimate Baths.—The Treatment of Dysentery.

THE opening meeting of this Society for the present session took place on Oct. 19th, the President, Dr. R. Douglas Powell, in the chair.

Dr. POWELL formally opened the proceedings by delivering some introductory remarks. He observed that after the numerous addresses of an introductory kind that had been given at the recent congresses at Bournemouth and in London, he would not do more than deal chiefly with matters concerning the work of the Society, making only a few digressions suggested by the work accomplished last session and promised for this. The work of the Medical Society was of peculiarly broad and catholic scope, and whilst no discovery was too new or theory too bold for its careful consideration, there was a touch of conservatism in its acceptance of new and, as yet, unestablished doctrines, due, no doubt, to the larger degree in which the practice of general medicine and surgery was represented amongst its Fellows. He hoped that this strong feature of the Society would be preserved, and that its Fellows would still be proportionately recruited from amongst those in general practice. After alluding to the loss the Society had sustained by the deaths of Dr. Edward Sheppard and of their late registrar, and a brief reference to the change in the award of the Fothergillian medal, Dr. Powell referred to the fact that, in addition to their practically sufficient library of modern books of reference, the Society possessed a large collection of very valuable ancient books on medicine, which had been hitherto hidden away and unclassified, but which were well worthy of due restoration. Dr. Allchin had already devoted much of his precious time to the work, and, with the assistance of Mr. Hall, the works were being carefully examined and prepared for placing on the shelves as rapidly as the means at disposal would permit. Dr. Powell then said that it gave him great pleasure to present to the Fellows the new volume of Transactions, which had been prepared to place before the President at the first meeting, and their best thanks were due to the secretaries for their energy and alertness. After reference to some interesting papers that had been promised for the coming session, Dr. Powell alluded to some that had been read during last year. The paper by Sir William Roberts on the Deposition of Crystalline Urates in the Tissues was a very suggestive one, and he thought that the term "uratosis," proposed by the author to describe that excess of uric acid which has been currently dignified by the more vaguely theoretical term "diathesis," was a wise suggestion. The physician was still much at a loss when asked by the student, In what does the uric acid diathesis consist? He thought he might speak of it perhaps as being currently regarded as a faulty chemistry of assimilation, whereby, owing to defective assimilative power, or to unduly abundant supply of material to be dealt with, products of restricted oxidation, of which uric acid was the signal type, were formed in excess. Gout was not limited to the well-conditioned any more than to the well-born, as the late fasting experiments demonstrated. It would seem as though there were, if the expression might be used, a dissimilative as well as an assimilative gout. Clinically the question had an important bearing, and he (Dr. Powell) hoped that able physicians in the Society who had laboured at chemical pathology in its clinical bearings would throw some more light on the matter, which was one of great importance to the welfare of the hard brain workers amongst our English people. Dr. Powell then reviewed some of the advances that had been made in the treatment of tuberculosis. He expressed himself as feeling by no means so despondent as to the future of the inoculative treatment for tubercle as many of his friends. The prophylaxis of tubercle had been greatly encouraged of late years by the discovery of the organism proper to the disease. Its communicability from animals to man through the medium of milk, and perhaps of uncooked meat, had been recognised, and measures of prevention had already followed. The President then referred to an article by Prof. Tyndall in the *Fortnightly*, based upon the recent but well-known researches of Prof. Cornet on the communicability of tuberculosis. From these experiments sufficiently strong evidence had been acquired to show that the tubercle organism was not conveyed by the breath, nor indeed in any other way than one—viz., by sputum. According to this conclusion, it was certainly incumbent on every practitioner having charge of phthisical cases to review the precautions in hygiene and nursing which he might have already adopted, and to supplement them if necessary, and insist on their being carried out. They were, in fact, very simple—1. Proper spittoons only should be used, and should be carefully and efficiently cleansed, and should contain some disinfecting fluid, not powder. 2. Spitting on floors and corridors should be strongly condemned. 3. The use of handkerchiefs for reception of expectoration should be discouraged, or, if used, directions should be given for them to be thrown into a vessel containing a disinfecting fluid and at some convenient time steeped in boiling water. 4. Floors, carpets, and furniture should not be swept or dusted, but should be wiped over with a damp cloth. These were the simple precautions that were called for in view of the direct danger they had been considering. Dr. Powell added that they had reason to thank Professor Tyndall for so trenchantly enlisting the public feeling in an important hygienic question, and that their German *confrère* deserved their gratitude for placing the facts of the matter so distinctly before them.

Mr. MANSELL MOULLIN read a paper on the Treatment of Compound Fractures into Joints by means of Corrosive Sublimate Solution. The method recommended was complete immersion of the injured part in a bath of corrosive sublimate at the temperature of the body. If the accident was recent and the wound clean, the strength of the solution should be 1 in 10,000, with a few drops of hydrochloric acid, and two hours' submersion night and morning would be sufficient. If, on the other hand, the injured part was foul, or some time had elapsed and inflammation had already set in, the bath should be continuous, night and day, for forty-eight hours, and the strength should be 1 in 1000 for the first two. Over thirty primary cases of very severe injury had been treated in this way (including two of compound fractures into the wrist, two of compound dislocation of the ankle-joint, three of primary excision of the elbow, and several of crushed hands and feet) with perfect success except in two instances, in both of which the failure was traced distinctly to an escape of sewer gas. Of the secondary cases—those, that is to say, in which some time had elapsed since the receipt of the injury—almost the same could be said; in one, however, a compound fracture of the ankle-joint by direct violence, in which a period of five days had been allowed to elapse, a secondary abscess formed (without a rigor or other sign of pyæmia) in the iliac fossa on the opposite side of the body. It was claimed for this method that it absolutely prevented decomposition; that the limb lay in the fluid evenly supported on all sides, so that there could be no tension or pressure; that there was no muscular spasm to cause displacement; that prolonged cleansing of a wound was quite unnecessary, and that the difficulty of telling whether crushed tissues could survive or not was avoided. If they were really too much damaged to live, they could receive no harm; as dead tissues they absorbed sufficient of the antiseptic to prevent decomposition. If, on the other hand, they had just sufficient vitality to survive, they were placed in the best possible position for recovery. A simple wooden splint was advisable, so that the limb could be lifted easily in and out of the bath; and in the intervals either iodoform and wood wool or boracic lint could be employed, according to the condition of the part, the dressings floating off easily and without any pain in the next bath. There was no fear of mercurial poisoning (probably because the salt formed an insoluble compound with the lymph on the surface of the wound, preventing further absorption) unless the immersion was kept up continuously for a much longer period. On the other hand, it was admitted that the wound looked exceedingly bad owing to the lymph coagulating in this fashion, and that repair was very slow, owing to the granulations becoming œdematous; but it was pointed out that this could be obviated by pressure and elevation as soon as it was thought that the treatment could be changed with safety; and it was not intended to apply this method to injuries in which there was a reasonable hope of primary union, but only to those severe crushes of joints in which it is for a time impossible to tell whether amputation may not be required after all.—Mr. GANT had tried the plan of treating these cases by

baths for a good many years, and the result of his experience was that he would not recommend it as a general plan of treatment. So far as he understood Mr. Moullin, he had advised it in two sets of cases: in lacerated wounds and in lacerated wounds accompanied by fracture. Applied to the latter class of cases the treatment could not be good, owing to the liability to displacement of the fragments. Mr. Moullin had very fairly noticed the objection that the soft parts would become sodden, and the granulations œdematous. He emphasised the fact that patients submitted to treatment by continued immersion of a limb often experienced great pain; so much so that they would frequently beg that the treatment should be discontinued. He would prefer to limit the immersion treatment to lacerated wounds only.—Mr. MOULLIN, in reply, said that he did not claim that the immersion treatment was a new one; his object was rather to recommend that sublimate solution should be the agent used. In his experience the treatment was quite free from pain.

Professor BAHADHUDJI (of Bombay) read a paper on the treatment of Dysentery. Referring first to its pathological anatomy, he said that the large intestine would present one or more of the following conditions:—(1) Areas of congestion in cæcum and bends of colon; (2) simple transverse abrasions at the lower end of the bowel; (3) simple general catarrh, with thickened glands; (4) mucous and submucous infiltration of a necrotic character, with general thickening of the bowel; (5) areas of diffused submucous infiltration, leading to gangrene of the mucous lining; and (6) fulness of the portal vessels. In some very chronic cases there was a very general thinning of the gut, the colon showing marked atrophy. He compared the pathological changes in the large bowel to the catarrhal abrasions, the infiltrations and ulcerations of the mucous lining of the mouth and pharynx. In the mouth the initial irritation gave rise to a flow of saliva, and there would be a feeling of soreness about the mouth and throat. Then followed swelling, the salivary flow became less watery, there was a nasty taste in the mouth, and the breath smelt foul. Movements of the tongue and mouth became painful, and warm drinks and spirits were not agreeable. Dirty sticky phlegm hung to the back of the throat, and it might show streaks of blood. In dysentery the initial irritation in the large intestine led to an increased watery flow of the secretion of the alimentary canal, and, reflexly, of the liver. There was diarrhœa, which was often of a biliary nature. Then the stools grew less watery, contained slime, and were fetid. The slime came away with difficulty, causing tenesmus, and was later mixed with blood, which was greater in the case of the bowel owing to the more copious vascular supply. There was a general soreness of the abdomen, more particularly at the cæcum and at the flexures of the colon. The stools became shreddy in cases of ulcers discharging sloughs, and were offensively fetid if there were any gangrenous destruction of the mucous membrane. As Professor Bahadhudji compared the pathology of these two affections, so he recommended that the treatment should be similar. All irritants, direct or indirect, should be avoided, such as stimulant foods and drinks, particularly meat and its extracts. He held that the indiscriminate use of meat extracts and meat juices in fever and inflammatory affections was irrational in principle and harmful in practice. It should be remembered that they were not nutritive but merely stimulant extractives, and it was the custom to give them to invalids in far too large quantities. Milk by itself, he held, was irritating; it clotted readily, and acted as a foreign body. He said that arrowroot mixed with milk was the best form of diet; it acted almost as a protective to the mucous lining. Brandy, ether, ammonia, and the like were contra-indicated. The mucous lining should be helped to get rid of the mucus clinging to it, and alkalies given internally would not only loosen the mucus but check its secretion. Means should be taken to combat putrefactive decomposition by the administration of bismuth subnitrate given in small quantity. Ipecacuanha in small doses would influence the intestinal glands themselves, and tend to check secretion of unhealthy mucus. The irritation brought about by intestinal movement should be prevented by opium, which would not only check irregular peristalsis but control secretion. Should there be much weeping of the alimentary mucous membrane, with copious watery stools, vegetable astringents were indicated, such as catechu in powder and preparations of bael and pomegranate. This simple treatment, which aimed at acting on the blood, the intestinal glands, and at keeping the intestinal canal and its contents sweet, so as to enable the ulcers to take on a healthy character and heal, consisted in giving a combination of bismuth, pulv. ipecac. co. and soda, with a dietary of arrowroot and milk. It was often a good plan to give an initial dose of calomel and soda to clear away any source of irritation that might still remain in the bowel. The purely astringent treatment did not meet all the requirements of the case, and hence was uncertain in its results, and the same might be said of other empirical methods. The invariable results observed both in private and hospital practice with the above simple treatment were that the patient was first relieved of the distension, griping, tenderness and tenesmus, the quantity of blood was decreased, the stools were less offensive, though for a day or two they remained unreduced in number. About the third day the slime became less, by the fourth the blood had disappeared, there was very little slime and the stools were feculent and not foul, and the patient began to feel hungry. By the fifth day the slime had disappeared, the stools were formed and not frequent. On the fourth or fifth day the patient was allowed some extra milk and bread also if it did not disagree. Ordinary diet was withheld for at least a week longer. Blood was generally the first sign to reappear if ordinary diet was allowed too early. He attributed the extreme prostration of the disease to reflex nervous depression, and in chronic cases to impairment of the absorption apparatus, and to the deleterious effect of the presence of decomposing gases in the alimentary canal, which gained easy access to the circulation through the open ulcers. Again, the decomposing fluids in the intestinal tract were absorbed, and might cause death from septic intoxication. Meat and its extracts, being readily decomposable, were thus particularly harmful. He did not regard dysentery as due to any specific cause or germ: it was neither contagious nor infectious. The beginning of the ulceration in dysentery arose in much the same general way as did the ulceration of the mouth or pharynx: a lowering of the system by unhealthy water and food. Malarial influences, and anything tending to an overfulness of the mesenteric veins, such as chills, a sudden change of climate, a sudden change of diet, great excess in eating, &c., would also bring it on. When whole groups of people became affected, and dysentery attacked individual after individual, it was not because there was a specific cause, but because all those affected were exposed to the same general lowering conditions, such as privation or exhausting labour. It was a simple disease with simple beginnings but grave endings. An ordinary wound was a simple matter, but it might cost the limb, if not the life, of an individual if putrefactive blood poisoning were not avoided, or, if present, combated. The same obtained regarding the wounds in the alimentary canal: the irritant blood poisoning which took place at the seat of the ulcers, and was helped in its lowering action by the loss of blood, might take the life of the patient, or, if it were less acute, it would leave him with impoverished blood and debilitated bowel.

OBSTETRICAL SOCIETY OF LONDON.

A MEETING of this Society was held on Wednesday, Oct. 6th, Watt Black, M.D., President, in the chair.

The Influence of Purpura Hæmorrhagica upon Menstruation and Pregnancy.—Dr. JOHN PHILLIPS read a paper on this subject. The author, after showing the difficulty in defining the subject, gave the reasons for the more common occurrence of the affection in females than males. He considered the subject under two headings: first, the influence of purpura hæmorrhagica during menstruation and the non-pregnant condition; secondly, its influence on the pregnant condition: 1. Under the first heading a typical case was related, in which menstruation was seriously affected and death ensued. Two other cases of a somewhat different nature, but not fatal (Puech, Wetherill), were also detailed. A few remarks on other varieties were made, and various conclusions drawn. 2. Under the second heading six cases were recorded, all fatal; and another under the author's care, which recovered. The first three cases (author, Puech, and Kezmarezky) were grouped and discussed together for reasons given; the next four—Dohrn (two) and Wiener (two)—were similarly treated. The first three were considered as cases of purpura hæmorrhagica very little modified

by the pregnant condition; the last four presented certain peculiarities in the appearance of the rash and general symptoms. The hæmorrhagic exanthemata (measles, scarlatina, and small-pox) were shown to simulate closely the disease under consideration, but the differences existing were pointed out. The part played by septicæmia or septic influence, when purpura hæmorrhagica complicates pregnancy, was discussed. The following conclusions were drawn: 1. That the prognosis in these cases is extremely grave, the large majority proving very rapidly fatal. 2. That death may be due to post-partum hæmorrhage or some condition allied to septicæmia. 3. That abortion or premature labour inevitably takes place during the course of the disease. 4. That certain modifications of the rash, which are not observed in the non-puerperal condition, may appear. 5. That the disease is not hereditary, but is a fertile cause of intra-uterine death.—Dr. CULLINGWORTH inquired if the word "fertile" in the last line of the abstract was a misprint.—Dr. HERMAN said that he had had one case under his care. The uterus was swabbed with a styptic. The hæmorrhage stopped, and iron was given. Her anæmia improved; she had a fresh crop of purpuric spots at several subsequent menstrual periods, due, he considered, to the increased vascular tension which accompanied menstruation. A case which he considered one of ordinary purpura accidentally coinciding with absence of uterus had been published as an example of vicarious menstruation. He objected to the statement that we were ignorant of the nature of septicæmia.—Dr. GIBBONS regretted the absence of details regarding the condition of the blood and tissues. He gave details of a case under his own care, in which he had found the red blood-corpuscles exceedingly pale; the majority of them contained numbers of round black granules; they were most numerous when the disease was at its height, and when the patient was quite well none could be found. The number of red cells was greatly reduced, whilst there was an excess of white corpuscles; the hæmoglobin fell to 30 per cent., rising to 60 per cent. at the end of the disease. He believed that the primary morbid condition lay in the capillary and other small bloodvessels. Supporting the septic origin of purpura, he quoted a case which he had published, where the disease had followed the drinking of milk containing pus.—Dr. GRIFFITH made remarks, and Dr. PHILLIPS replied.

Specimens.—Dr. PLAYFAIR (for Dr. Kenyon): A Double Monster.—Dr. HAYES: (1) Dermoid Cyst; (2) Large Polypus.

OPHTHALMOLOGICAL SOCIETY.

Primary Glaucoma in a Patient aged Twenty-nine.—Pathological Conditions after Concussion of the Eye.—Exostosis of the Orbit Removed by Operation.

AN ordinary meeting of this Society was held on Oct. 15th, the President, Henry Power, M.B., F.R.C.S., in the chair.

The Committee of Reference on Mr. Treacher Collins's Case of Supposed Intraocular New Growth exhibited at the July meeting reported as follows: The growth derives its blood-supply from large thin-walled vessels which radiate from the optic disc. Near the optic disc the nuclei of the cells stain well, and processes from some of the cells are visible, closely resembling those found in ordinary glioma of the brain. Anteriorly this structure is lost, and there are merely indications of degenerated cells, which do not stain, and are arranged radially in reference to the thin-walled vessels. This part of the growth closely resembles an exceptional case of glioma of the spinal cord described by Dr. Sharkey in his Gulstonian lectures. The report is signed by Dr. Sharkey and Messrs. Gunn, Brailey, Silcock, and Collins.

The PRESIDENT read a letter from Professor H. von Helmholtz, in which he thanked the Society for the address which had been sent to him on the occasion of his seventieth birthday. The following is the text of the address:—"We, the President, Council, and members of the Ophthalmological Society of the United Kingdom, desire to offer to you our congratulations and the assurance of our deep respect and admiration on the occasion of your seventieth birthday. In doing so we recall to mind the great services you have rendered to that branch of medicine which it is our object to cultivate, and we rejoice to think that our Society has the privilege of numbering you amongst its honorary members. Your invention of the ophthalmoscope gave to ophthalmology, in the year 1851, a method of diagnosing the condition of the interior of the eye, which at once placed it on the highest level of scientific medicine, and we believe that had your scientific labours ended with this alone, it would have sufficed to make your name famous in all future generations, and to place you among the great benefactors of mankind. But scientific ophthalmology is also under a deep debt of gratitude to you for your great work 'On Physiological Optics,' and for the elaboration of that theory of the perception of colour enunciated by our countryman, Thomas Young. To you also we owe the invention of the ophthalmometer and other benefits which the limits of an address prevent our enumerating. In conclusion, we heartily wish you many further years of mental and bodily vigour, in which to add even still more to the usefulness of that life which you have spent in the service of science and for the good of your fellowmen."

Mr. CRITCHETT contributed a case of Double Subacute Glaucoma occurring in a young lady of twenty-nine. Fifteen days previous to his seeing her she had received a severe shock in the painfully sudden death of a sister. Within twenty-four hours the patient was seized with intense pain in both eyes, vomiting, loss of vision, and all the other symptoms of subacute glaucoma. The nature of the case was unfortunately not recognised; the vomiting was attributed to hepatic causes and treated accordingly, and when Mr. Critchett saw the patient she was in a painful state of nervous prostration. The eyes were intensely hard, the pupils dilated, the media so hazy that no view of the fundus was obtainable, and there was doubtful perception of light. As the unfortunate young lady had been practically blind for more than a fortnight, the value of an operation seemed doubtful. As, however, both the patient and her mother strongly urged that the attempt should be made, even though it should prove fruitless, it was decided to perform iridectomy on both eyes. For two hours previously an attempt was vainly made to induce a slight degree of myosis by the use of eserine, but the marked mydriasis continued as before, each anterior chamber being so narrow that the section was with difficulty made with a narrow Graefe's knife. The wounds healed favourably, but the recovery of sight was very gradual and, of course, partial. A month after the operation the patient could count fingers; but did not obtain her best vision of $\frac{1}{10}$ and Jaeger 16 till nearly a year afterwards. The fields at that time were limited in every direction, while the discs showed moderate cupping, and were partially atrophic. At the date of the operation, 1875, the Ophthalmological Society was not in existence, or the attention of its members would then have been called to so exceptional a case. The patient was lost sight of till a few months ago, when her sight was found to have remained practically the same as it was in 1876. The chief points to be noted in connexion with this case were—first, the occurrence of the disease in both eyes in a subacute form at such an early age; secondly, the encouragement it afforded to the operator to attempt the relief of his patient even though he may appear to be leading a forlorn hope; and, lastly, such a case as this should appeal with reproachful but eloquent emphasis to those in authority in the profession who still ventured to include the study of ophthalmology amongst the optional subjects in a medical student's curriculum. — The PRESIDENT drew attention to the connexion between mental shock and glaucomatous attacks, and referred to cases of chronic glaucoma he had seen in young people.—Mr. TWEEDY quoted the case of a young man twenty years of age, who had suffered from gradual failure of vision. He was wearing glasses + 2 D. There had, however, been an increase of symptoms, with further diminution of vision during the past few years. The patient stated that since the age of eight he had noticed haloes round lights when tired or excited. The appearance of mists and fogs had been increasing daily. The media were clear, the papillæ deeply cupped, and the anterior chambers shallow. Eserine was prescribed in a solution of two grains to the ounce. In the course of a month there was some improvement, and iridectomy was advised. The patient, however, was anxious to pay a visit to Melbourne on business, and on his return vision had deteriorated. Iridectomy was performed; the wounds healed well. Vision was $\frac{2}{3}$, and Jaeger 1 in the right eye, Jaeger 2 in the left, and the improvement was permanent.—Mr. ROCKLIFFE (Hull) mentioned a case of glaucoma in a woman, aged fifty, in

whom the symptoms came on during severe mental shock occasioned by the sudden death of her husband and son.

Mr. TREACHER COLLINS gave a lantern demonstration of the lesions he had found in three eyes lost by concussion. Each was injured by a blow from a blunt object; in none of them had there been any perforating wound. In two, those fibres of the ligamentum pectinatum which pass to the base of the iris, were torn across, and the ciliary muscle was split in its entire circumference, so that the angle of the anterior chamber was prolonged outwards. The split in the ciliary muscle separated its longitudinal from its circular fibres. These latter, together with the iris and lens, had fallen back, thus producing deepening of the anterior chamber. In the third eye there was a more extensive rupture of the fibres of the ligamentum pectinatum. Not only were those which go to the base of the iris torn across, but also those which give origin to the ciliary muscle. The muscle itself, which was but slightly torn, had become separated from the sclerotic. Some of the anterior ciliary arteries were ruptured, giving rise to hæmorrhage into the anterior chamber, which served to hide the lower part of the iris. The upper part had, together with the ciliary body, become so retracted that it was behind the sclero-corneal margin. Hence none of the iris could be seen through the cornea. The lens capsule in all three eyes was ruptured at its equator, and the fibres of the suspensory ligament inserted into it there were torn across, the lens being displaced, and the vitreous protruding forwards between its margin and the ciliary body. The free ends of the ruptured capsule were all found coiled outwards. Mr. Collins commented on the diminished tension which was observed in each eye, and suggested that possibly it was due to the increased width of the angle of the anterior chamber permitting a more rapid exit of the intraocular fluids than normal.

Mr. W. M. BEAUMONT (Bath) read notes of a case of Exostosis of the Orbit. The patient, a young girl aged sixteen, suffered great pain from the tumour, which had been gradually increasing in size for about three years. The eye was displaced downwards and outwards, and the vision was very much reduced. The disfigurement from the proptosis was very marked. An incision was made parallel with and just below the left eyebrow down to the tumour, which was found to be attached to the inner wall of the orbit, whence it spread outwards, filling the roof of the orbit. Two hours were occupied in cutting through the base of attachment by means of chisels, as it was thought to be dangerous to apply the mallet or use much force. The patient made a good recovery. The exostosis consisted of an outer hard shell of bone, enclosing a softer cancellous portion. The specimen and photographs of the patient were shown.—The PRESIDENT referred to a case in which he had operated, and dwelt on the difficulty and danger attending operative interference with these cases.—Mr. SILCOCK mentioned a case he had exhibited to the Society some years since. Opinions had been divided as to the advisability of operation, but the patient herself settled the point by refusing to have anything done. She died recently with symptoms pointing to extension to the brain. Mr. Silcock thought this indicated that an operation would have been inexpedient.—Mr. TWEEDY referred to a case upon which he had operated in 1881, the specimen now being in the Moorfields Museum. The growth was very large and of ivory consistence, and much difficulty was experienced in removing it. The patient did very well for a month, and then had a rigor, suddenly followed by coma and death. The post-mortem examination disclosed a growth in the cranial cavity, much larger than that removed from the orbit. There was in addition an abscess in the frontal lobe of the brain.

The following cases were shown:—

Mr. S. H. A. STEPHENSON: Peculiar Retinal Changes.

Mr. KENNETH CAMPBELL: Case of Tremulous Irides and Backward Displacement of Lenses.

Mr. HOLMES SPICER: An Unusual Form of Lamellar Cataract.

HUNTERIAN SOCIETY.

THE first meeting of the session was held on Wednesday, Oct. 14th, Dr. Stephen Mackenzie, President, in the chair. The attendance was large.

Lupus of the Foot.

Dr. HINGSTON FOX showed a case of Lupus Ulceration of the Foot of two months' duration in a feeble woman, aged sixty-eight. The foot was œdematous, and an oblong area some three inches in length on the outer edge of the sole was occupied by an ulcer, covered with coarse papillary growth, and this again was capped by a black crust of dried pus secretion.—Mr. HUTCHINSON said the case illustrated the combination of different elements in the production of disease. Here we had, doubtless, an inherited taint, showing itself afresh in the debility of old age. An excoriation perhaps from the boot set up local irritation, and the form of chronic inflammation which resulted took on the features of lupus. Further, the papillary growth, which was common in lupus of the hands and feet (unlike that on the face), tended often to pass into epithelial cancer—a result not improbable in this case. Lupus did occur definitely in later life, although said not to do so. The treatment was important—removal of the crust and careful destruction of the entire growth, with generous support to the bodily powers.

After a few introductory words from the President, Mr. J. HUTCHINSON then delivered the first Hunterian Lecture, already reported in full in our columns (p. 860). These lectures, open to all members of the profession, have been instituted by the Society to give an opportunity for the more complete treatment of some medical and surgical topics.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THE annual meeting was held on Oct. 8th, Dr. Murphy (Vice-President) in the chair.

The following officers were elected:—President, Dr. Gowans; Vice-Presidents, Drs. Anderson, D. Drummond, Peart, and Mr. Page; Hon. Secs., Dr. Limont and Mr. Morison; Committee, Drs. Adamson, Arnison, J. Drummond, Hume, Murphy, Oliver, Philipson, Messrs. Black and Williamson. The annual report stated that there were now 192 members, and a balance in hand of £50. The meetings of last session were largely attended. Twenty-five guineas were voted to the library fund. Eight new members were then elected, and Dr. Murphy introduced the president-elect, Dr. Gowans, who then took the chair.

Exhibition of Cases and Specimens.—Dr. GEORGE MURRAY showed a woman suffering from Myxœdema, whom he had treated since April by hypodermic injections of an extract of the thyroid of the sheep, and demonstrated the improvement which had taken place. Swelling had distinctly decreased, especially in the hands and fingers. Speech was more rapid and memory improved. Perspiration had reappeared, menstruation had become normal, and hair had grown again. Temperature, previously subnormal, was now about normal. Most improvement took place in the first three months, but it still continued.—Dr. ROBERTSON showed a man on whom he had performed tracheotomy for Laryngeal Phthisis; also a man suffering from Laryngo-pharyngeal Stenosis, probably of a syphilitic nature.—Dr. LIMONT showed a woman suffering from Hydatid of the Right Kidney. The swelling extended from the ribs to the iliac crest and forwards to the mid line. It was painful and tender to touch, but had not suppurated. The urine contained nothing abnormal. Absolute diagnosis was made by finding under the microscope shreds of the laminated cyst wall. While in hospital a year ago on account of the tumour, the patient developed melancholia, and had to be sent home. Two months ago she returned to hospital with marked cardiac symptoms, dyspnœa, ascites, and greatly congested liver. These symptoms had greatly improved; aspiration of the tumour had been attempted, but had failed, probably owing to the firm capsule receding before the needle. It was intended to incise and drain as soon as the patient was in a condition fit to be anæsthetised.—Dr. HUME showed a man aged thirty-two on whom he had operated for Intestinal Obstruction, and a man aged fifty-three on whom he had performed Gastro-enterostomy for Malignant Disease of the Pylorus. Care was taken to find a part of the jejunum high up. Openings were made in this and in the greater curvature of the stomach an inch in length, and the two united by Senn's plates. A row of Lembert's sutures were put in round the plates. A large piece of omentum was then detached and applied to the scarified surfaces of the stomach and intestine. After the operation there was some vomiting, which Dr. Hume

attributed to regurgitation of bile into the stomach, this regurgitation being favoured by the large opening. This had since disappeared, coincidently probably with the solution of the plates and narrowing of the opening. The patient was now free from vomiting, which was one of his chief troubles; his pain was much less. He took a good quantity of food and had improved markedly in condition.—Mr. BLACK showed the pelvic organs taken from a case where he had operated for Imperforate Rectum. The child was brought to the Children's Hospital when two days' old, suffering from vomiting and distension of the abdomen. An attempt to reach the bowel through the ischio-rectal region failed, and anterior colotomy was therefore performed. The case did very well for three weeks, when erysipelas of the perineal wound developed, ending fatally within twenty-four hours. The specimen showed below the colotomy opening the sigmoid flexure to be narrowed for a distance and then ended in a distended sac, which communicated by a small opening with the prostatic urethra.—Dr. MURPHY showed the following specimens: — Elephantiasis of Clitoris. Ruptured Tubal Gestation, operated on at the twelfth week; patient extremely collapsed; death. Large Pyosalpinx, very adherent; recovery. Uterus from case of Vaginal Hysterectomy for Cervical Cancer; recovery. Uterus after Porro's Operation; conjugate less than an inch and a half. Long incision made, uterus pulled out, ligature passed round, and uterus at once incised. Mother and child did well. A number of Uterine Polypi were also shown by Dr. Murphy, who argued that these were not pediculated till they were outside the uterine cavity, and advocated that intra-uterine cases should be treated by enucleation.—Dr. HUME showed a Malignant Kidney, probably sarcomatous, removed that day from a female aged fifty-four. Hæmaturia had been present for some months, and wasting had taken place. The tumour was well defined, however, and movable. It was removed through an incision along the outer side of the rectus.

Posticus Paralysis in Infants.—Dr. ROBERTSON read a paper on a condition of childhood which he thus named. The symptoms included prolonged and difficult inspiration, sometimes even cyanosis, with drawing in of ribs during inspiration. Marked pharyngitis was present. The symptoms were removed by repeated intubation and treatment of the pharyngeal affection. Dr. Robertson regarded the symptoms as being due to bilateral impairment of the postici muscles.

PLYMOUTH MEDICAL SOCIETY.

THE first of a series of monthly meetings of the above Society for the purposes of discussion &c. was held at the Public Dispensary on Saturday, Oct. 10th, at 8 P.M., the President, Mr. W. J. Stamp of Plympton, being in the chair.

After the exhibition of cases and transaction of business, Mr. PAUL SWAIN opened a discussion on Colotomy: Inguinal *versus* Lumbar. After passing in review the relative advantages of the inguinal as compared with the lumbar operation, the speaker supported his allegations in favour of the former, more especially as applicable in cases of rectal cancer, and detailed his own experience—twelve colotomies in the past two years, with three deaths: one from perforation, another from acute mania, and the third from collapse within twenty-four hours of opening the bowel. In conclusion, Mr. Swain said that he should continue the inguinal operation until a better one were devised.—Mr. ELLIOTT SQUARE inquired as to the best retentive apparatus after operation.—Mr. LUCY brought forward several points in favour of the lumbar operation.—Mr. C. E. RENDLE denied the value of Bryant's statistics at the present day.—Mr. MARCUS BULTEEL inclined in favour of inguinal operation.—Mr. WOOLLCOMBE, after going into details of the inguinal operation, proposed to remedy the present defective spur by two modifications of Cripps' operation.—Mr. HARRIS cited a case of death after the inguinal operation. — Dr. ALDRIDGE (Plympton) inquired as to the form of insanity from which one of Mr. Swain's colotomies had died.—The PRESIDENT considered that from the anæsthetist's point of view the inguinal was the better operation.—In reply, Mr. SWAIN said a glycerine padded truss was the best, and advanced arguments against Mr. Lucy's contention for the lumbar operation.

Reviews and Notices of Books.

Lectures on Diabetes, including the Bradshaw Lecture, delivered before the Royal College of Physicians on Aug. 18th, 1890. By ROBERT SAUNDBY, M.D. Edin., F.R.C.P. Lond., Emeritus Senior President of the Royal Medical Society, Physician to the Birmingham General Hospital, &c. With Illustrations. Bristol: J. Wright & Co. London: Simpkin, Marshall, & Co. 1891.

"DIABETES MELLITUS is essentially one of those rarer diseases which can only be effectively studied, at least in this country, by those who reside in great centres of population, and have the extensive practice of a large hospital from which to draw their cases, as well as the opportunities of treating numerous individuals suffering from this malady under those conditions of control which can rarely be obtained except in the wards of such an institution." These conditions Dr. Saundby can certainly claim most thoroughly to fulfil. "There is probably no disease which is so overweighted by theoretical considerations derived from an overwhelming amount of physiological experiment." Nevertheless, it would be out of the question to write a treatise on diabetes without giving a review of these observations and investigations, for it is largely upon them that our methods of treatment are based, and almost entirely upon them that the peculiar fascination, which the study of this malady in some quarters seems to possess, depends. In pursuance of this view, the author, after indicating in the history of diabetes that it was known to the Greeks, Romans, and Hindoos soon after the commencement of the Christian era, goes on to devote three-quarters of the first chapter to a consideration of the physiology, causes, and theories of glycosuria.

In dealing with its Etiology and Distribution in the second chapter, the author is able, with the aid of the Secretary of State for the Colonies and others, to give a statistical account of the mortality from diabetes in the different cities of Europe and the various parts of the world. These tables, besides indicating the remarkable incidence of the disease amongst the inhabitants of towns as compared with those living in the country, and the special liability of inhabitants of such places as Gibraltar and Malta, serve also to show that the frequency of its occurrence increases from year to year.

With regard to the influence of race, it is interesting to note that amongst the highly educated and non-flesh-eating inhabitants of India, and also among Jews and Turks, the disease is very prevalent, whilst the Mongolian and African races enjoy almost complete immunity. A review of external influences and ascribed causes is given at some length; the complications or associated conditions are also given very fully, those connected with the eye being dwelt on with especial care and completeness.

Concerning treatment by drugs, little advance can be claimed; and this is an especially disappointing feature in connexion with diet, which at the present time cannot be regarded as either satisfactory, varied, or extensive.

The volume contains a valuable series of cases illustrating various phases of the disease, and the effects of some modes of treatment, and is furnished with a liberal bibliography. The book is well written and well arranged, and contains a great deal of information conveyed in a small space and in an agreeable manner.

A Text-book of the Diseases of the Ear. By Dr. JOSEPH GRUBER. Translated by EDWARD LAW, M.D., and COLEMAN JEWELL, M.B., M.R.C.S. London: H. K. Lewis, Gower-street. 1890.

AN English edition of the work of this well-known aural surgeon will be hailed with satisfaction. The volume numbers 580 pages. Much small print is interspersed, to

that the work is really a most elaborate treatise on the subject of aural diseases. The reader will be struck with the minute account of the anatomy of the ear, and with the extensive references to numerous authors. A charge might almost be brought that the work is too elaborate; indeed, many of the methods of treatment, as the "force pump" in Eustachian obstruction, would not find favour in this country. Although the work is, on the whole, most minute in detail, yet we observe that somewhat scant notice is given to such important conditions as naso-pharyngeal disease, cerebral abscess, and lateral sinus thrombosis. The purely aural operations are detailed with every care. We may note, for instance, that for perforation of the mastoid process. The author, by the way, tells us that the operation is almost always performed with hammer and chisel, "very few surgeons employing drills or trephining instruments.'

The work is profusely and excellently illustrated. The coloured plates of diseased conditions of the membrana tympani are seventy in number. They are beautifully executed upon a dark ground, and give as accurate an idea of the conditions they represent as it is possible to do from illustrations.

Chapter XVII. gives in considerable detail indications for operations upon the membrana tympani and vesicles, and describes their performance. In this part of the work, however, we should have liked to see some account of the definite results of these proceedings. From the author's large experience such accounts would have been valuable.

The translators may be congratulated on having done their work well. The book is very readable, the type good, and the subjects well arranged in natural sequence. This work should be read by all aural surgeons in this country, and will be an addition to medical libraries. As a book of reference it will also be invaluable, for it gives a faithful account of the practice of German aural surgery exemplified by one of her most distinguished professors.

Veterinary Notes for Horse-owners. By M. HORACE HAYES, F.R.C.V.S. London: W. Thacker and Co. 1891.

THIS is the fourth edition of Captain Hayes' popular book on the management and diseases of the horse, written for horse-owners who take an interest in their equine servants, and care to know something of their disorders and the accidents to which they are exposed, together with the best means of remedying these. The usefulness of the manual is testified to by its popularity, and each edition has given evidence of increasing care on the part of the author to render it more complete and trustworthy as a book of reference for amateurs. It contains chapters on sprains, skin diseases, diseases and injuries of the feet, diseases of bone and cartilage, wounds and fractures, the chief maladies of important organs, as well as chapters on nursing, feeding, and watering, veterinary medicines, operations, and the interesting and essential art of shoeing. Everything, or nearly everything, pertaining to these subjects, which a non-professional person may at one time or another require to know something of, is dealt with in simple and lucid terms. Of course, it is pretended to convert the unskilled horseman into a veterinary surgeon by means of these notes. Such an attempt would be both futile and dangerous; for amateur doctoring of horses is even more risky than amateur tampering with the diseases of man, as diagnosis and manipulation are surrounded with greater difficulties, and the wise man will not venture on experiments in this direction. But, nevertheless, all who have to do with the noble beast should possess some acquaintance with its infirmities and the casualties likely to befall it, and be ready to render assistance, at least tentatively, until scientific advice and help can be obtained. Reference to this work by any person possessed of a moderate degree of intelligence will do much in emergencies to avert troublesome or serious consequences. To these people the book can be confidently recommended, for though it has nothing much in the way of science to commend it, yet it can lay claim to a large amount of common sense in the advice it affords. Horses will live and labour much longer and better than they usually do if the advice is followed.

New Inventions.

ANTISEPTIC INDIARUBBER CUSHIONS.

WE have already directed attention to specimens of a group of appliances which may be described as novel and unique applications of the indiarubber cushion, designed to add greatly to the comfort of patients. Probably every nurse of experience has had to contend with those difficulties which by means of these cushions may now be easily overcome. To Miss Emily A. Jones, night superintendent of the Infirmary, Baker's-row, E., and formerly of St. Bartholomew's Hospital, belongs the credit of meeting a want, long felt by all who have had much to do with nursing the sick. By fitting one of these cushions to the bedpan and partly filling it with warm water and partly inflating it with air—which by an ingenious arrangement of valves can be done without trouble—it is possible to provide accommodation for a sick person which cannot but increase his comfort and spare the nurse much concern. The circular cushion adaptable to the bedpan is constructed as an air or warm-water cushion, attached to a case of indiarubber, into which the bedpan is placed and firmly secured by straps. It is divided into two compartments, as an additional comfort for the sick, with two valves, one for each compartment. The screws at the end of these valves can be taken off for filling with warm water, or they can be inflated with air by means of an indiarubber ball. If patients can raise the knees while lying on

their backs, and the bedpan be given to them from the right side of the bed, only the compartment on the left of the handle of the bedpan need be filled with either air or warm water. If the pan is given from the left side of the bed, the compartment on the right side of the handle of the pan will be the only one required to be filled, because in this position it is the lower part of the vertebral column which presses most on the pan. If the

patients cannot raise the knees, the pressure will be found to cover the entire pan, so both compartments will require to be filled with either air or warm water. The bed bath, represented in the engraving, is partly covered, and is of the kind used for vaginal douches. Cushions have also been designed by Miss Jones which can be fitted on to the bed slipper. The workmanship is of a superior kind, and has been carried out by Messrs. Maw, Son, and Thompson.

THE LANCET.

LONDON: SATURDAY, OCTOBER 24, 1891.

WE venture to congratulate the Royal College of Physicians and the esteemed orator himself on the style and character of the oration which Dr. DICKINSON delivered last Monday. He might well have been daunted by the fact that his predecessors in the office, whom he so worthily followed, numbered no fewer than 172; but when it is remembered that this annual celebration not only serves to commemorate HARVEY and his work, but to mark the progress of knowledge in the application of physiology to pathology and practice, we cannot but be grateful for its annual observance. The theme chosen by Dr. DICKINSON was that of the bearings of HARVEY'S immortal discovery of the circulation upon medicine since his day. He did not dwell, as some of his predecessors have done, upon the historical details of that memorable research, or seek to vindicate the claims of experimental physiology that date their birth from HARVEY. In felicitous and simple phraseology he brought vividly before his distinguished audience the conditions of the era in which HARVEY lived, and the state of physiological darkness in which the medical practitioner of that time pursued his calling. He showed, too, how the old notions of vital spirits were impressed on forms of speech still current amongst us; whilst, with much homely wit and shrewdness, he called to mind examples of practice which would seem to have been almost inspired, since they so long preceded any notion of the true conditions which really give them sanction and justification. Similar examples were cited by Dr. LAUDER BRUNTON in his recent address at Bournemouth, and they testify to the wisdom and sagacity of the professors of ancient physic, whilst at the same time they encourage the continuance of a certain amount of empirical treatment which, in days to come, may be found to have a rational basis. But, as Dr. DICKINSON remarked, there are other lines of practice which wider knowledge would seem to have deprived of any basis of support; and yet their efficacy seems indisputable. For such no doubt there is an explanation, different from the original one that has to be discarded, but which has still to be found by science.

In tracing the effects of HARVEY'S discovery, completed as it was by MALPIGHI'S work upon the capillaries, Dr. DICKINSON instanced in historical order a few of the most obvious and striking acquisitions to art and knowledge that have accrued therefrom. The invention of the tourniquet, the ligature of arteries for aneurysm, the application of auscultation to the diagnosis of cardiac diseases, the doctrine of embolism (so fertile in the explanation of many obscure conditions), that of pyæmia, of inflammation, and the pathological bearings of the circulatory mechanism as controlled by the vaso-motor system,—surely in this record there is a splendid catalogue of the abundant fruit that has been garnered from the tree that HARVEY planted. Still, as Professor VIRCHOW has lately been reminding us, we must be careful not to limit our conceptions of morbid processes to the influence of the circulation and the blood. For wide as the sphere of their action is, it is not capable of explaining the ultimate reason of pathological states; rather does the circulation act as the great intermediary between the vital processes, which are unseen, but always acting, and constitute the outward and visible result of their activity.

Dr. DICKINSON selected for special consideration a topic upon which he is well entitled to speak; and his ingenious endeavour to attribute the phenomena of the dropsy of renal disease to mechanical circulatory conditions must be studied with that respect which is due to authority. It is right to add that he himself deprecated having attained any final conclusion on the matter. That he disproved the doctrine of hydræmic dropsy—i.e., of a dropsy due to osmosis alone—will be generally accepted. This, which was the notion advanced by no less an authority than BARTELS, was sufficiently disposed of by the experiments of LICHTHEIM and of COHNHEIM. But we do not think the Harveian orator met the arguments adduced by the last-named pathologist, whose acute intellect was too early quenched. COHNHEIM having assured himself of the insufficiency of a purely hydræmic explanation for renal dropsy, and being conscious also of its peculiarities in site and varieties in mode of occurrence, laid the greatest stress upon changes in the vascular lining as favouring the escape of fluid from the vessels. (This seems to be allied to the doctrine of Dr. WAYMOUTH REID, alluded to by Dr. DICKINSON.) On the other hand, Dr. DICKINSON contends that renal dropsy is so markedly related to evidences of increased arterial pressure, that it is rather in the circulatory mechanism that is to be found the solution of its pathogeny. There is evidence, he holds, of primary obstruction in the capillary circulation, rather than in the arterioles; and this, together with the heightened systolic action of the heart, forces the fluid elements to filter from the vessels; but—and here comes the apparent paradox—as arterial tension increases, the dropsy lessens, for the obstruction is transferred from the capillaries to the arterioles; and the *vis a fronte* of the cardiac suction, which gains with the increase in the muscularity of the heart, favours a freer return of venous blood to the central organ. The subsequent reappearance of a true cardiac dropsy, from the giving out of the heart muscle, is a familiar fact, and needs no special description. Dr. DICKINSON will doubtless on some future occasion still further develop his interesting thesis; and he may succeed in proving that the most marked examples of renal dropsy—those of chronic parenchymatous nephritis (which, as SIBSON demonstrated, were not associated with heightened pulse-tension or with cardiac hypertrophy)—belong strictly to the class of purely mechanical dropsies of central and non-peripheral origin. Whatever Dr. DICKINSON says is sure to be suggestive, and likely to lead to much earnest thought and reflection. His choice of a topic for his Harveian Oration has in this respect been as happy as it has been clearly presented, and it will doubtless pave the

way for renewed searchings out of the secrets of Nature in the manner commended by the great master himself.

A LUNACY case of some interest came before Mr. GLOVER, a county magistrate at Highgate, on the 9th inst., and is reported in *The Times* of the following day. A shabbily dressed man, who said that he was "GEORGE SMITH," and forty-four years of age, was charged with having been found wandering and deemed to be a lunatic. The policeman stated that the occupant of a place called Silver-hill, in Highgate, informed him soon after midnight that there was a man in his garden who was behaving very strangely and trying to mend the fence with a needle and thread. The policeman further testified that, going towards the house and meeting the prisoner coming out of the garden, he spoke to him, whereupon the intruder at once commenced to rave loudly. He gave six different addresses, and was very violent on the way to the station. Whilst this evidence was being given, the prisoner, who was held by three constables, kicked violently, used most disgusting language to the magistrate, told him he was too inquisitive, and asked him if there was anything else he would like to know. Mr. GLOVER said that the man would be sent to the workhouse for the state of his mind to be inquired into. The inspector said that the prisoner was sent to the workhouse as soon as he was brought to the station. There was the cab fare to pay for there and back and the fare there again now. Would the magistrate certify for the expenses in the usual way? Mr. GLOVER said he did not think it quite necessary that a man who was only charged at midnight should be sent to the Edmonton Workhouse, a distance of eight or nine miles, and brought back again by 9 o'clock in the morning. Together with the fare back again now there was 24s. to pay, and that was a large sum for such a short time. Could they not have kept the man in the cells until morning? The inspector said that as the man was not charged with any offence he could not be detained in a cell. It would not be safe to keep a violent lunatic in a police cell all these hours, and if he was detained in an ordinary room it would have required three men to look after him. There was a special police order on this subject, which stated that when the particulars as to the finding of the alleged lunatic had been put on the proper form, and it was impossible to convey him directly and without delay before a magistrate, he was to be conveyed to a workhouse of the union of the parish in which he was found. Mr. GLOVER said it all turned on the meaning of the words "without delay." He did not think it applied to a case of this kind, where it was known that the prisoner would be brought before a magistrate so soon after being taken into custody. He would certify for the expenses, but he wished that his view of the "order" might be represented to headquarters, in order that they might be guided in future. The inspector said he would acquaint the Commissioner with his worship's remarks.

Taken upon the evidence here given, there is nothing to prove either that "GEORGE SMITH" was a lunatic or that he was not a loiterer bent on committing a felony, pretending (after discovery) to be insane; for such evidences of mental activity as trying to mend a fence with a needle and thread, giving six home addresses, raving loudly, kicking violently, using disgusting and impertinent language to the magistrate, appear to us to be at least as compatible with sham insanity as they are with the real disease. Hence the question that must arise in cases of this sort, when a man is arrested and taken to the police station, is of a threefold character: are we dealing with a lunatic and a lunatic only, or with a lunatic who was about to commit a felonious act, or with a would-be criminal (possibly an old prison bird) who is shamming insanity? or, to put it briefly, is he a lunatic or is he an impostor? Was "GEORGE SMITH" at the police-station a lunatic or was he an impostor? According to the special police "order," the inspector appears to have had no alternative in the case but to deal with him as a lunatic, and send him to the workhouse. According to the magistrate, the inspector ought, under the given circumstances, to have had no alternative but keep him as best he might in the police-cell all night. If SMITH was a feloniously disposed loiterer and an impostor, the magistrate was right and the police "order" wrong; if he was insane, the police "order" was right and the magistrate wrong. If "SMITH" was an impostor, the inspector played his game and contributed towards establishing a *primâ facie* case for the genuineness of the insanity by sending him to the workhouse; if he was a genuine lunatic, the magistrate would, unwittingly of course, be the means of compelling some amount of injustice to be done to the man by insisting upon his being locked up and detained for a prolonged period as a criminal offender, possibly to the still further detriment of his mind.

We are strongly of opinion that no hard-and-fast, and at the same time just, rule of an official sort can be laid down to meet such a case as this, where the nature of the responsibility and the character of the issues are so mixed up and conflicting, and where there is something like an even chance that the procedure will tend either to help a criminal in his attempt to evade punishment or to inflict an injustice upon a harmless lunatic.

There are amongst our lay authorities *doctrinaires* who preach that it does not require a medical education or a medical experience to detect the existence of insanity (whatever that may be taken to be) as contra-distinguished from mere eccentricity or abnormality or deformity of mind, or to determine that certain mental manifestations are or are not counterfeit presentments. But we hold that there are a great many cases, especially criminal cases, where the fullest lay knowledge and experience must be supplemented by the fullest technical and medical knowledge and experience before a sound and trustworthy estimate of the actual mental state can be arrived at. It is our belief that the only consistent rule whereby such a difficulty as that which shows itself in the case of "GEORGE SMITH"—a minor case, it is true—can be avoided is to call in the divisional police surgeon, and let him decide upon the merits of the individual case what are the proper steps to be taken. It comes to this in the end, and the medical opinion might as well be

taken first as last, thereby placing the responsibility on the right shoulders, and avoiding much circumlocution and waste of time.

To the current number of his *Archiv*—the first of its 126th volume—Professor VIRCHOW contributes an article[1] upon the position of the doctrine which is linked with his name—viz., cellular pathology. He says that he felt impelled for several reasons to discuss this topic. One of these was the fact that the above journal, founded forty-four years ago, was in its first decade largely concerned with the development of that doctrine in all its manifold bearings, and that it has continued ever since to be a medium of the exposition of the fact that our conceptions of morbid processes must be founded upon a histological basis. Another potent reason for his present review of the subject was that he was on the eve of reaching that term which has been from of old accepted as completing the natural span of human life; so that his personal share in promoting the teaching identified with himself and the *Archiv* could not be of much longer duration. The great international gathering at Berlin, and a reperusal of the Transactions of that Congress have also had their influence in turning his thoughts in this direction—the endeavour to find what common foundation underlies the vast amount of individual inquiry which such a collection of work exhibits. Has there been any real advance made in root principles at all commensurate with the enormous progress effected in every department of practice? It would seem rather as if there were a tendency to ignore these principles, so that the study of general pathology is becoming less cultivated and the grasp of it more lax, and this in proportion as achievements in practical matters are deemed to be the highest qualifications of the physician or surgeon. Professor VIRCHOW does not hesitate to hold specialism responsible for this narrowing of ideas, and he thinks it has reacted injuriously upon general training in medicine. Nevertheless, he is hopeful that the pursuit of specialism will in the end cause a reaction towards a better conception of the medical art, and the recognition that he is the most useful practitioner who can turn his knowledge of general principles to account in particular instances. As an illustration of his meaning, he says that when a special topic is being exhaustively discussed most of the speakers deal, not with pathological processes as such, but rather with their results and causes alone. The more difficult matter of explaining the nature of the morbid lesions is shelved, or facts which could only be gleaned by arduous investigation are set aside in favour of some hypothetical explanation of an alleged cause. Hence such phrases as "hyperæmia," "stasis," "pressure," "transudation," "malnutrition," "dyscrasia," and the like, are given greater prominence than the conditions underlying them. This he deems to be the outcome of empirical methods of education, for they are terms which are thoroughly eclectic and arbitrary. In the use of such language and the mode of thought which it implies, he sees the same tendency at the present day to arbitrary generalisation as characterised the speculations of the past. Humoral pathology, the more modern mechanical and chemical views, and bacteriology itself, have all added their quota to this imperfect and irrational method of interpretation. Indeed, the declaration at that Congress by the first of all bacteriologists, that in most of the acute specific diseases no bacteria are to be found, or at least none which could be held to be the excitants of the disease, must, he says, have come like a thunderclap upon the modern student, who has been encouraged to believe that all such diseases are caused by bacteria. So, again, the experience that exudation is usually preceded by hyperæmia favoured the simple explanation that increased blood-pressure causes exudation; but there was no explanation here of the undoubted concurrence of hyperæmia and heightened pressure without exudation. From the time of HARVEY the action of the heart and bloodvessels has been considered the main agency in vital processes; and it is surprising how in later days so great an influence in disease has been assigned to alterations in blood-pressure. The newer development of humoral pathology sought to find in the circulating blood the key to all nutritive disorders, and this notion, which availed itself of the old formulæ, was the starting-point of modern eclecticism, from which our conception of vital action has not yet entirely escaped. In formulating his hypothesis of cellular pathology, VIRCHOW endeavoured to get at the root of all vital activity, and he reminds us that his point of view differed from that of SCHWANN, who sought to explain the formation of cells rather than their functions. VIRCHOW started with the idea that every cell arises from a pre-existing one, and that only such tissue could be considered endowed with life which was composed of cells; and, having this conception, he was led to emphasise the essential importance to medicine of a study of cell physiology and pathology.

There runs through this article a strain of disappointment at the apparent neglect with which this doctrine has been treated. It may or may not be warranted, but we should like to assure the veteran pathologist that this indifference to what must always be regarded as the basis of all pathological inquiry is more apparent than real. The fact is, we believe, that "cellular pathology" is not spoken of now because it is almost taken for granted. It is so eminently reasonable and so obviously a deduction from the facts of anatomical research that it is difficult to conceive of its being wholly discarded. He does well, however, to remind us that there is a vast difference between the standpoint of those who look to the cell elements of the body as being merely passive objects for the operation of blood or nerve, and of those who regard them as not in themselves endowed with active properties which are essential to the maintenance of the life of the organism, and the derangement of which constitutes disease. It is this distinction between the activity and passivity of the tissues which, he avers, has failed to be grasped even by distinguished physicians, and yet it is one which should dominate our whole conceptions of the causes and even of the treatment of disease. For the recognition of cell action requires that nutrition shall be held to be not a mere matter of cardio-vascular action, of quality or quantity of blood, or of blood-pressure, but a process dependent rather on the special stimulation

[1] Der Stand der Cellularpathologie, Archiv f. Path. Anat., Bd. cxxvi., Hft. 1.

of the cells themselves. Variations in nutrition are to be met with in different individuals; indeed, in the same subject at different times. One organ may atrophy, another hypertrophy, from the same nutritional disorder. The formation of new cells and his doctrine of proliferation have, however, been the points which have been most vigorously attacked; but he maintains them steadily, and contends that they were unaffected by COHNHEIM'S discovery of leucocytal emigration. Hence it was with peculiar pleasure that he found the speakers at the Pathological Section of the Berlin Congress of 1890 relegating the leucocyte to its indifferent position, and once more speaking rather of "proliferation" than of "transudation" or "infiltration." Nevertheless, he thinks the reaction may go too far; for, as he says, in abscesses and allied processes there is ample evidence of a true infiltration, apart from any new formation of cells. In the modern researches in karyokinesis he sees an extension of the cell doctrine, without effecting any change in its standpoint. So, too, he claims that bacterial pathology is quite consistent with cellular pathology. VIRCHOW himself long since urged that it was not bacteria, but their virulent products, that caused diseases; and he also expressed the opinion that infective disease may consist in a struggle for existence between cells and bacteria, an idea which has been so remarkably illustrated in the "phagocytism" of METCHNIKOFF. Much has yet to be done in this subject. It may be that phagocytes do not indeed exist, but their non-existence would not destroy the cell theory. For if the alternative hypothesis of BUCHNER be true—viz., that it is the blood-serum that is the bactericidal agent,—it may owe this property to cell changes; or if to external sources, then cellular pathology would not enter into the question at all. It is unlikely that cell action plays no part in the production of the bactericidal poison; but, should it be so, it would not affect the fundamental doctrine. For the characteristic lesions of infectious disease all testify to the fact that bacterial action is exerted on the tissues rather than on the blood; and the study of these tissue changes, recognised long before bacteriology entered the field, may still be objects of investigation when etiological problems are all solved. It would seem, says Professor VIRCHOW in conclusion, that the ultimate aim of cellular pathology is the localisation of disease—the determination of the particular parts which are selected for separate morbid actions; and this leads by but a small step to local therapeutics, which means nothing less than a revolution of the old lines of treatment. This revolution is hastening on; it is being promoted by distinguished physicians; and it is not only the direct outcome of a cellular pathology, but it will advance under its protection, in spite of all attacks that it may be exposed to. Therefore he trusts that the *Archiv* may continue to maintain its position in the world, in pursuance of the work it commenced, and in prospect of steady progress in the knowledge of morbid action.

A DISCUSSION characterised by great warmth of feeling and corresponding vigour of expression has been carried on in the Scottish newspapers recently concerning the nursing arrangements at the Glasgow Royal Infirmary. Complaints as to overwork and bad provision of food had been made by the nurses, and had attained to notoriety through the columns of the *North British Daily Mail*. The publication in that journal of a strongly worded letter of complaint from a probationer nurse at the institution led to the appointment of a committee of inquiry, which has just made its report. From the tenour of this document it is clear that the nurses had only too much reason to be dissatisfied with the arrangements under which they have been working. The committee are of opinion that some of the complaints made, and in particular those which relate to the food-supply, were, if not unfounded, at least greatly exaggerated. But whether any abatement should or should not be made under this head from the statement of grievances laid before the committee, enough has been made out under other heads to prove that attention has been given none too soon to the nursing administration of the infirmary. The remedies which the committee recommend comprise an improved dietary, a monthly holiday, improved regulations to prevent overwork, and the appointment of a nurses' committee of managers, to sit regularly and take a general oversight of the nursing staff. The case with regard to overwork is a singularly instructive one, and illustrates in a very striking way the danger which always exists, that the best considered and most carefully drafted regulations may become ineffectual, or even inoperative, through the silent upgrowth of a custom or etiquette which sets them at naught. The time-table of the infirmary has been so arranged as to set night nurses free after a period of eleven and a quarter hours—net—of duty at ten o'clock in the morning. But although entitled to release at this hour, apart from any special circumstances demanding her longer attendance at her post, the night nurse is expected to hold herself in readiness to assist at the visit of the visiting physician or surgeon if need be, and in course of time a custom has grown up that the nurse should wait for an intimation that her assistance would not be so required before leaving her ward. This innocent-seeming custom appears to have undermined the rule. The committee say: "It is true that many years ago a custom crept in which has become more or less general in the wards, that no night nurse should leave her ward until the visit of the visiting physician or surgeon is over, unless by special permission. The visit begins in the case of the surgeons at 9 A.M., and in the case of the physicians at 10 A.M., and extends from one to three—sometimes even to four—hours, according to the number of operations, the gravity of the cases, and other special circumstances. The night nurses frequently remain of their own free will to see the operations; while, even after the visit is over, the superintendent of nurses states that she has great difficulty in getting some of them to leave the wards." We think the committee have wisely recommended that a regulation for the correction of this bad custom should be at once adopted and strictly enforced. Not only is the matter one nearly affecting the well-being of the nurses who have to do night duty, but the existence of an unwritten rule like this, which conflicts with the written code of the institution, is a fruitful

source of mischief in other ways. It weakens the authority of the responsible managers, and fosters the growth of that irresponsible personal ascendancy of subordinate officials which is the ultimate source of so much friction and discomfort in the working together of large and badly organised bodies of men or women—of the latter especially, since, generally speaking, women display less faculty than men of combining and coöperating for a common object, and proportionately diminished power of making use of the strength of numbers to supplement the deficiencies, either in power or ability, of the individual.

Annotations.

"Ne quid nimis."

THE DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

SIGNS are not wanting of the approach of the time when the tenure of office of the present direct representatives of the medical profession upon the General Medical Council will terminate, and when they must be prepared to appeal for re-election or to contest the election against new comers. Some five months ago we had to refer to this subject, and it is satisfactory to find that the point upon which we then laid stress is precisely that which finds prominent place in the address of the English direct representatives to the electors published in our advertisement columns—viz., the value of the experience that has been acquired in the work of the Council. From its constitution the work of the General Medical Council must prove embarrassing to new comers, and it speaks well for the energy, perseverance, and patience of the direct representatives that they should be able to issue a manifesto asking for re-election, not in virtue of vague promises, but because of actual achievements. They have been asked by Dr. Rentoul certain questions about their intentions, and they answer that their reply can be gathered by an appeal to their past history. They have "acted well together," and they have "done their best" in advancing medical education, especially "in its practical aspects." Some of Dr. Rentoul's questions clearly touch upon matters which are beyond the powers of the General Medical Council; hence answers to these become mere expressions of opinion devoid of practical value, but they serve to indicate that the views of the present direct representatives are in general sympathy with the profession rather than with the examining bodies. They have not only strengthened the Council in protecting the public and the profession from illegal and discreditable forms of practice, but they have also been largely instrumental in guiding the Council in the consideration of many of the difficult questions connected with the extension of the curriculum. The interests of the profession have been so well cared for by the direct representatives that we cordially hope their re-election may be carried by a unanimous vote.

CHOLERA AND YELLOW FEVER.

THERE are again rumours of cholera extension, not only on the eastern shores of the Red Sea, but also in Syria. At Constantinople and at Alexandria quarantine has been imposed on all arrivals from Syrian ports, not only owing to a fear that cholera may be imported by means of troops returning from Yemen, but also on account of a somewhat sudden extension of the disease in the neighbourhood of Damascus. Aleppo is also stated to be a centre of the disease a recrudescence of cholera having taken place there. Yellow fever is announced to prevail at the Brazilian port of Santos, and owing to this, and to the prevalence of small-pox at Rio Janeiro, intending emigrants are warned through the Emigrants' Information Office not to sail for Brazil.

THE EASTERN HOSPITALS INQUIRY.

ON Saturday last, at the fortnightly meeting of the Metropolitan Asylums Board, a further long communication was read from the Local Government Board on the subject of the alleged maladministration of the Eastern Hospitals, more particularly dealing with the question of Dr. Collie's resignation. This communication, while confirming the previous decision of the Central Board, was in the main a reply to the letter of vindication addressed to the Managers by Dr. Collie, and by them referred to the Board. It was evidently by way of justifying their extreme action in calling for Dr. Collie's resignation, and was doubtless evoked by the adverse criticisms which have appeared in the medical and daily press. Certain statements in this communication do not carry that conviction which the Local Government Board seem desirous to establish. For instance, in reference to the dietary, the Managers are reminded that, at the inquiry held in 1885, the extras supplied by Dr. Collie to his patients were very numerous, and were held by the Local Government Board to be excessive; whereas since his reinstatement in office the modifications of the diet were very few indeed. This—viz, to pass from the extreme of extravagance to that of monotony—the Local Government Board now regard as evidence of "considerable indiscretion." Looking, however, to the fact that on this charge of extravagance Dr. Collie was for nine months deprived of his living, and that on his reinstatement in office he was especially enjoined, both by the Local Government Board and by its inspector, to practise economy, it may seem to unbiased persons to be evidence of considerable discretion on Dr. Collie's part; beyond which, it is hardly fair to compare the prescribing of extras with the monotony of diet, the extras probably being ordered in special cases, with definite purpose. On the subject of disinfection the Board admit the efficacy of Dr. Collie's method—viz., that of boiling the linen; but hold that he was culpable in not exercising sufficient watchful supervision over the process. Dr. Collie has borne witness to the practical success of the method as carried out for many years in the hospital, and, unless his attention had been specially directed to the matter by any evidence of failure, it is not unreasonable to expect that the many duties of his office would have compelled him to trust to a great extent to those who were responsible for its actual working. The Local Government Board are of opinion that practical wisdom dictated that precautions should be used in the hospital such as the medical administrator might not personally believe to be essential, but which were believed to be necessary by many of the highest authorities. Now authorities differ widely as to the confidence they repose in the many chemical disinfectants; but it would probably be difficult to find one who denied the complete superiority of boiling water. As to Dr. Collie's knowledge of the hissing which took place on Nurse Halkin's departure, the Board seemed to have somewhat shifted their position, and state: "Dr. Collie must have had sufficient warning that it was *likely to occur*, and should have used his authority to prevent its occurrence." The Board now state that it is in connexion with the performance of his duties as administrative superintendent, not as medical attendant, that they have come to their decision in reference to Dr. Collie. In their former communication they said that it was mainly in connexion with three matters, one of which was a purely medical point—viz., the unvarying nature of

the diets—that they felt compelled to call for his resignation. It is difficult to reconcile these two statements. During the meeting of the Asylums Board various resolutions and amendments bearing on the subject were proposed, of which the majority were negatived on a vote. Amongst them was one moved by Mr. Scovell, to the effect that, in order to aid the Managers in their consideration of the points raised in the Local Government Board's letter with reference to the inquiry at the Eastern Hospitals, the Local Government Board be requested to furnish the Managers with a copy of the report of their inspectors referred to therein. It is unfortunate that this resolution was not carried; indeed, it is, we think, desirable that the actual opinions of the inspectors should be made public.

NOTIFICATION OF SCHOOL ATTENDANCES.

THE Paisley Commissioners have decided that when an outbreak of infectious disease occurs in a house, the sanitary authorities shall inform the head master of the school which any children from the infected house may be attending, in order that they may thus be kept away from school so long as danger of conveying infection remains. The step is unquestionably a right one in the interest of public health; and the desirability of making such action general has been more than once discussed. But unless it be acted on with considerable judgment harm may arise. The intention of the Infectious Diseases Notification Act for England and Wales clearly contemplated the idea that the information was not to be made publicly known; but that it was, on the contrary, to be only utilised for the purposes of the sanitary authority acting under the advice of their medical officer of health. If schoolmasters and schoolmistresses are also to receive the information, there is risk that it may be used for purposes for which it was never intended; and we think that the forwarding of the information should, under any circumstances, be "confidential," and that it should be specifically stated that it is only for the special purpose of preventing the spread of infection in schools. Any step that would lead to the identification by the public of houses where infectious disease exists would tend to defeat the very object for which the Act was passed.

DR. WEIR MITCHELL ON SPECIALISM IN MEDICINE.

IN the course of his admirable and eloquent presidential address, at the recent Congress of American Physicians and Surgeons, upon the History of Instrumental Precision in Medicine (the full text of which is published in the October number of the *University Medical Magazine*, Philadelphia), Dr. Weir Mitchell made some thoughtful remarks upon the inter-relations of specialism and general practice. He said:

"I could easily show you, by added proof, what we all lose by not keeping close touch of one another's gains. The criticism of the specialist is that the general practitioner does not early enough ask his help in difficult cases. The largely educated and generally occupied physician feels (and you will pardon your critic) that limitation of attention to organs—the eye, the ear, the womb—is apt to lead to a too entire trust in local means, and to neglect of those patient methods which ought more frequently to call for the added counsel of the general physician. For nowadays the patient often resorts at once to the specialist, and it is the ophthalmologist who sees, or who ought to see, the first signs of specific disorder, of spinal troubles, of asthenic states. Whether justly or not, the thoughtful general practitioner is to-day distinctively of opinion that the absence of grave mortality after operations which once were so fatal has created a vast temptation for the younger surgeons.

"This critic believes—is he right, is he wrong?—that too often and too promptly the gynæcologist resorts to but one drug, and that steel in the trenchant form, when perhaps the state of the body makes operations doubtful as to their remote usefulness, or he condemns to sexual neutrality some who, under patient medical treatment with careful inattention (*sic*) to the sexual organs, might have had preserved for them the inestimable possibilities of the wife and the mother. I once saw, almost by chance, with Marion Sims, a girl of eighteen, decreed, after purely surgical consultation, to lose her ovaries next day. I said that she ought to have a larger chance of medical treatment. Using a rather strong phrase, with energy characteristic of the man, he replied, 'I never murder sex without a pang. Let us give her a reprieve.' To-day she is a wholesome, happy wife and mother.

"And, too, there is, as I have hinted, the other side of the shield—the general practitioner who sees the beginnings of disease and does not correctly interpret them, or early enough ask counsel. He regards as rheumatic the neuralgias due to the faint beginnings of spinal disease. He treats headache or vertigo by general means, and allays them by drugs, when in an hour the physician of organs would tell him that it is feeble muscles, astigmatism, ear trouble, or nasal disease which is the parent of the malady."

THE MEDICAL OFFICER OF HEALTH FOR BIRKENHEAD.

IT is with great regret that we learn that Mr. Vacher, medical officer of health for Birkenhead, has tendered his resignation of that office. The general management of the fever hospital had been adversely commented on by the Health Committee of the Corporation, and Mr. Vacher complained that he had been unfairly treated, his administration having been condemned without his defence of it being heard. Hence he could not do otherwise than resign his office. The view as to his having been dealt with in an unfair way was endorsed by several members of the committee, but in the end it was decided by a small majority that the resignation tendered had better be accepted. The matter will still have to come before the Council, and we trust that, if for no other reason, Mr. Vacher's eminent position in the public health service, and his long tenure of the office in question, will lead to a reconsideration of the attitude adopted towards him.

CAPITAL PUNISHMENT BY ELECTRICITY.

WHEN, in July last, the reports came to hand about the deaths of the four criminals who were put to death by electricity in the Sing-Sing prison at New York, the impression conveyed was that the extinction of life in all the cases was not only painless but instantaneous, and that a complete success—some said "a triumphant success"—had been achieved. Two of the physicians who had charge of the executions have now reported at length on the result of the proceedings, and the facts presented are certainly not at all like those which the earlier accounts led the world to expect. As the *Medical Record* of New York truly says, the proceeding was "experimental"; and, it might have added, not very satisfactory even in the form of experiment. In the case of the first criminal, a current of 1485 volts was applied for twenty-seven seconds, but after an interval of between one and two minutes, signs of life reappearing, the current was applied again for twenty-six and a quarter seconds. In the case of the second criminal, modification of the fatal experiment was tried in order to ascertain whether continuance of the current or sudden impact or breaking of it were more important, and three contacts of ten seconds each were made, followed, when signs of life reappeared, by a contact of nineteen seconds, upon which life was extinct. Continuance of the current was therefore considered important, and to the third criminal three contacts of the current of twenty seconds each were made. These were thought to be unnecessarily long; so in the case of the fourth criminal three contacts of fifteen seconds

were applied with intervals between them of twenty seconds. Could anything more uncertain or unsatisfactory be conceived, anything more painful be recorded on the face of the history of modern medicine? The best minds will stand astounded at the fact that any medical man or men could be found ready to dip their hands into any part of such fearful work. If anything of service to humanity were gained by it, if any suffering, sorrow, or death were saved by it, if anyone were made the least bit nobler or more useful by it, there might be some excuse. But to take the loathsome job out of the hands of the common executioner is beyond comprehension. The office of the public executioner is that of a person who for gain kills another man lawfully; whether by the cord, the knife, the bullet, or the electric shock is simply a matter of detail.

FASHION IN DRESS.

NOTWITHSTANDING numerous evidences of subservience to the caprices of fashion, we are not without ground of hope that a permanent change for the better in regard to dress may be looked for as the result of rational teaching. This, too, appears to be the view of Dr. Ambrose Charpentier, who recently delivered a lecture on the subject. His observations, which have since been published in pamphlet form, are stated with clearness and fluency, and give proof of considerable study, original thought, and scientific insight. Dress customs in great variety, from those of the days of ancient Britain to our own, are briefly described and compared. A section devoted to the æsthetic aspect of the question is well introduced by an allusion to the fact that truth to nature is alone true art, and the author's views on dress, if they do not accord with some which have the sanction of present usage, will bear comparison with the latter in respect of such fidelity. When he comes to sanitary considerations, he is no less fortunate. His vigorous denunciations of such old and slowly dying evils as tight stays and high heels have added something to the often-neglected arguments of reason. His ideal dress for women includes woollen or silk underwear, a light corset without bones or steel, allowing for a full, natural waist of twenty-six inches, an upper bodice, a skirt depending from the shoulders, and the usual outer dress. We note in his remarks on masculine attire a preference for knee-breeches and for a flatter and softer hat than the familiar "chimney pot." Our space will not admit of a full statement of his observations on the injury done by badly though fashionably fitting clothes. Over and over again have the certain consequences of wearing misshapen boots, tight corsets, and other faulty clothing been clearly explained. Some good has doubtless been done in this way, and any who are candid enough to learn once more the why and wherefore of healthy dress will do well to peruse the work of one who is evidently a careful thinker in such matters.

PROFESSOR SMITH ON REMINISCENCES OF KING'S COLLEGE.

PROFESSOR HENRY SMITH opened the winter session of the Medical Society of King's College, on Monday evening last, with an interesting address on this subject. He began by pointing out the enormous advances in medicine and surgery which had taken place since he commenced his medical career some fifty years ago, and claimed that the eminent men who had taught in King's College since its foundation had taken a very active part in this progress. From empiricism—even in the hands of a shrewd observer, as was the gentleman to whom Professor Smith was a pupil—we had, through the cultivation of pathology, advanced to a rational treatment of disease. In his days of pupilage, he had seen a case of hæmoptysis, dependent upon extensive phthisis, treated with repeated bleedings, much to the detriment of the ill-nourished patient. The influence of Sir Thos. Watson, Todd, Budd, and Johnson in the chair of medicine, of Fergusson, Bowman, Partridge, and Wood as surgeons, of Arthur Farre and Priestley as professors of midwifery, and of Partridge in the chair of anatomy, was most sympathetically dwelt on. Each and all of them had advanced the knowledge of the branch of medical science which had been specially cultivated by them, and they had all possessed that magnetic charm of personal influence which made great and successful teachers. As a result of their teaching, pupils of King's College had been elected to the teaching staff of every medical school in London but one, and to almost every important provincial hospital. The meeting, which was largely attended by past and present students, enthusiastically thanked Professor Smith for his kindness in delivering an address of so much historical interest.

ST. LUKE'S DAY AT THE COLLEGE OF PHYSICIANS.

ON the conclusion of the Harveian Oration on Monday last, which was largely attended by many Fellows, Members, and Licentiates of the College, and several distinguished visitors, the President, Sir Andrew Clark, made the presentation of the Baly and Moxon medals. The recipient of the Baly medal was Professor Michael Foster of Cambridge; and the Moxon medal (which was awarded for the first time) was assigned to Sir A. B. Garrod. It is needless to say that the President passed a most graceful eulogy upon the services rendered by these distinguished men to physiology and to clinical medicine. The annual Harveian Dinner took place in the College the same evening, Sir Andrew Clark in the chair. About seventy Fellows were present, and the guests included Lord Hannen, the Lord Bishop of Carlisle, and Professor Huxley.

A CASE OF CÆSAREAN SECTION.

THE operation of Cæsarean section has recently been performed successfully by Dr. Cullingworth at St. Thomas's Hospital. The patient, a primipara aged twenty-one, is a rachitic dwarf, 4 ft. 5 in. in height, with a generally contracted and oblique pelvis and rachitic lower extremities. The estimated true conjugate is only two and a third inches. The operation was performed on Oct. 8th, at 2 P.M. Pregnancy had advanced to within one week of full time. Ether was administered and the abdomen opened by a mesial incision five inches long, beginning one inch above the umbilicus. The uterus was found rotated to the left, the right broad ligament lying in front, and a little to the right of the abdominal wound. This was remedied, and an incision of four inches made in the anterior wall of the uterus, the hæmorrhage being restrained by digital pressure. The entrance of blood and liquor amnii into the peritoneal cavity was effectually prevented by keeping the edges of the abdominal wound closely applied to the anterior surface of the uterus. The child, a well-formed male, was seized by the left leg, and easily extracted; it weighed 7 lb. 7 oz., and measured twenty inches and a half in length. The cord was then clamped and divided. The placenta and membranes were quickly removed, and two fingers passed through the cervix into the vagina. The uterus contracted well, and was now brought out of the abdomen and the sutures introduced, beginning at the lower angle of the incision. Ten deep and eleven half-deep silk sutures were used, hæmorrhage being arrested during their introduction by pressure of the abdominal wall against the lower segment of the uterus. No elastic ligature was used.

The Fallopian tubes were ligatured, and after the peritoneal cavity had been cleansed by sponging, the uterus was returned to the abdomen and the abdominal wound closed by deep and superficial sutures. The operation lasted altogether an hour. The chief points to be noted in the subsequent progress of the case have been the extreme scantiness of the lochial discharge; some abdominal distension and pain on the second day; and an attack of pleurisy, with a temperature of 103°, a pulse of 132, and some sickness, on the fourth day. The patient was returned to the general ward on the seventh day, and on the following day the sutures were removed, the abdominal incision having soundly healed. The mother and child continue to progress satisfactorily.

THE NOTIFICATION ACT.

THE merits of the Notification Act are likely for some time to afford a subject of much discussion between the sanitary and the medical section of the profession. There can be no doubt that it needs to be carried out with consummate tact and good medical judgment. The diagnostic skill necessary for notification without chance of error is not sufficiently insisted on in the present state of medical education, in which, notwithstanding the regulations of the Medical Council, the medical bodies do not severely exact proof of instruction in infectious disease. Rather is it true that such instruction is at present so little made use of that it will only be by a happy chance that, for some time to come, practitioners will avoid many errors in the very eye of the public and of public bodies. Supposing diagnostic skill to be all that can reasonably be demanded—for infallibility is not to be expected here any more than in any other department of human duty,—there remain the questions of its utility as a means of protecting the public and of the tact with which the powers of the sanitary authority are exercised. There are some important statements on this subject in the recent report of Dr. Groves on the health of the rural and sanitary districts of the Isle of Wight. He testifies that the profession has been faithful to its duty of notifying since the adoption of the Act, but that in the majority of cases the head of the family has failed to give notice. He says that a twelve months' experience has disposed of every objection to it, and proved it to be one of the most beneficent sanitary Acts hitherto passed by any legislature. Dr. Groves has no doubt that a large amount of sickness has been prevented and a considerable sum of money saved. There has been an entire absence of friction between medical practitioners and the medical officers of health, and the private interests of those engaged in trade have been conserved as they could not have been had the Act not been in force. He gives instances of perfect isolation of scarlet fever at a bakery and at a milk-vendor's, with perfect protection of the public, in happy ignorance of the presence of the disease. The report, however, shows the difficulty of getting complete notification, for there were known to be sixteen cases of scarlet fever over and above the thirty-five which were notified, and a large number of cases were not medically attended, which the opponents of notification would attribute to the Notification Act. A case is reported from South Shields showing the necessity for more care on the part of sanitary authorities. Whatever the objection of the medical profession to notification, it will certainly be reduced and removed more rapidly by consideration on the part of the authorities in the use they make of notification after it has been obtained. Friction is easily caused; but it is almost as easily avoided. At South Shields, two cases of scarlet fever were under the care of Mr. Crease, living in a four-roomed house, the family consisting of two adults and six children. He notified the cases on Sept. 19th. When he went to see them on the 21st he found they had been removed in a north-easterly gale and rain to the infectious hospital, at the instance and by the persuasion of the sanitary inspector, who, according to Mr. Crease, represented that they would have much better treatment there than at home. Neither the practitioner in attendance nor any other medical man was consulted as to the fitness of this removal. There seems to have been no intervention even of the medical officer of health, who would doubtless have consulted the practitioner in attendance. Mr. Crease naturally felt aggrieved, and complained to the Local Government Board, who admitted that in so acting the sanitary inspector exceeded his duty. In the circumstances of the family, and with only 630 cubic feet for two scarlet fever cases, there was much to be said for removal, but the question was eminently one in which medical direction should have been sought.

ACUTE RHEUMATISM CONFINED TO THE TEMPORO-MAXILLARY JOINT.

THE *British Journal of Dental Science* reproduces a report by Dr. Gallipe, published in *Le Progrès Dentaire*, of a case of acute rheumatism confined to the temporo-maxillary joint. It occurred in a patient of rheumatic diathesis. The symptoms were swelling of the cheek on the right side, with redness and pain on pressure; mastication and talking were both painful, with exacerbations at times. Pressure over the temporo-maxillary joint caused sharp pain. The upper and lower wisdom-teeth on the same side felt as if raised in their sockets. There had been no toothache. Careful examination of these teeth revealed no decay. The diagnosis was made of an attack of acute rheumatism in the right temporo-maxillary joint, and the patient was put upon salicylate of soda and quinine, rapid recovery resulting. Dr. Gallipe considers that the feeling of raising in the teeth was due to an attack of rheumatism in the alveolo-dental membrane itself, or rheumatic periodontitis, rather than simply the extension of pain from the affected joint.

THE LIGHTING OF SCHOOLS.

SOME sensible remarks appear in a recent number of the *Builder* on this subject. The dark days, it is remarked, are upon us, and, as is natural, the question of lighting again becomes prominent. It may, therefore, be opportune to suggest that the authorities who rule the great public schools of this country would do well to consider whether their manner of lighting is in all cases really satisfactory. As it is in boyhood that the eyesight is most frequently weakened, and the diseases of later years are begun, it is very essential that the utmost care should be taken that the lighting of rooms in which studies are pursued should be as effective and as little productive of trouble to the eyes as possible. We venture to think that this subject has received far too little attention in England. How many of the public schools of this country fulfil the recommendation of the committee convoked by the Minister of Public Instruction in France, and endorsed by Cohn and other authorities? The chief suggestion made by this committee was that in any schoolroom every scholar should be in a position to see a piece of the sky corresponding in size to a window span of at least thirty centimetres (thirteen inches) square; and Cohn adds that a newspaper of ordinary type can be read at a distance of one metre just as easily and quickly when illuminated by light equal to fifty normal candles—i.e., spermaceti candles six to the pound—as when read by good daylight, and that such light power can be obtained from one stearine candle if the print is held only fourteen centimetres from the flame. But in how many schools does this amount of light obtain? Most ophthalmic surgeons

would admit with Javal that there is never too much, and scarcely ever sufficient, artificial light. The wealthy schools ought to be lighted by electricity, and the lights should be placed overhead, with shades to soften the intensity. It is certain that an imperfect supply of light is a fertile source of myopia, and head masters would soon attend to this point if, in accordance with the recommendation of ophthalmic surgeons, boys were removed from badly lighted schools as soon as the symptoms of myopia betrayed themselves.

THE TREATMENT OF ILEUS.

DR. AUFRECHT of Magdeburg discusses in the *Therapeutische Monatshefte* the treatment of ileus. He thinks the washing out of the stomach, recommended by Kussmaul, a valuable addition to our therapeutic resources. The first and more important indication for washing out the stomach is prominence of the organ itself when vomiting is not present or is suddenly arrested—a circumstance which occurs in about a fifth of all the cases of ileus. He explains the sudden arrest or entire absence of vomiting, when the stomach is at the same time distended, by a slight dislocation, caused by the distended intestines, which forces the œsophagus against the margin of the foramen in the diaphragm, through which it passes. An introduction of the sound will give the best justification for such a view. The sound finds no impediment in the œsophagus, and immediately it reaches the stomach a surprisingly large quantity of liquid escapes. Dr. Aufrecht even contends that in some cases all symptoms improve by the mere introduction of the sound, and without washing out the organ. Another indication for washing out the stomach is stercoraceous vomiting. In such cases repeated washing out will remove the abnormal contents of the stomach and prevent them from doing further damage locally or by absorption. He also insists on the hypodermic administration of morphia in all cases of ileus. This treatment keeps the patient almost free from pain, which proves that peristaltic movements proceed quite normally. He is against all internal administration of opium or morphia, as their effect is not prompt when so administered, and because in the case of vomiting it is impossible to say how much of the drugs has been retained. Dr. Aufrecht has also long since ceased to administer large enemata, which in his opinion could only be of any use during the first few days of the disease. He punctured the gut twice in the year 1873, with very unsatisfactory results: the punctured coil collapsed, but no considerable evacuation of gases took place, and one of the two succumbed from peritonitis, which appeared to have been produced by the puncture.

COOKERY AND DOMESTIC EDUCATION.

THE recent opening by the Princess Louise of the new buildings connected with the Edinburgh School of Cookery and Domestic Economy must add materially to the teaching power of the northern metropolis. It is one of many movements of a like sort which tend to show that modern educators have other useful aims in view besides the diffusion and establishment of a purely mental culture. The new school, as its title indicates, is not devoted even to the culinary art alone, but concerns itself with the principles and, we understand, the practice also of general housewifery. It does not exist as the boon of a privileged class, but offers its benefits to all, and certainly these are not such that any can afford to refuse them. Good cookery in particular has probably more to do with health and comfort, and therefore with domestic happiness, than any other known accomplishment. The rich, notwithstanding their ample opportunities, do not sufficiently understand this. Among them the cook is often too confidently relied upon by mistresses young and old, who forget that even in her proper sphere she is far from omniscient. The poor, again, find it most easy to forget that in the midst of daily work and perplexity as to means there still may be room to cultivate some simple niceties of taste and order. It has been truly said that among them good cooking constitutes one of the most powerful correctives of drunkenness. We may add with equal truth that the excessive hankering for club life which divides many families in another social grade knows no rivalry like that of a comfortable home. It is most needful that in the arrangements of the new institution especial care should be given to the matter of invalid diet. Unfortunately, illness is occasionally found in every home, and there is no such epicure as the sick man. It would be out of all keeping with the position of Edinburgh as a medical centre if the importance in sickness of good cooking and suitable food were not fully recognised. We have little doubt that it will be, and we wish for the school so auspiciously opened the sincerest mark of public favour—its adoption in principle by many other towns.

THE HEALTH OF PROFESSOR JOWETT.

THE health of the Master of Balliol College, which is watched with so much public interest, fluctuates from day to day. It has been observed for some time past that Professor Jowett has been in less robust health than usual. About two months ago he was found to have serious cardiac failure, with slight anasarca of the lower limbs. His indomitable mental activity would not allow him to take the necessary repose in this condition, and by the end of September the symptoms of failure of power assumed grave proportions. In the earlier part of the present month his distress became alarming, and for some days his condition was critical. Hopes are entertained that the crisis may be tided over, but the situation is full of uncertainty.

EYE AFFECTIONS FOLLOWING INFLUENZA.

To the *New York Medical Journal* Dr. Weeks has contributed a paper in which he deals with this subject generally, directing particular attention, however, to influenza as a cause of retro-bulbar neuritis. After referring to several published cases, in some of which there was papillitis, while in others there was only impaired vision, he gives the particulars of his own case, that of a young man of twenty-four. This patient had suffered from an attack of influenza in January, 1890. The attack was characterised by pains and coryza, with fever. The patient also experienced very severe frontal headache, and in a few days he noticed that his sight was not so good as usual. It became gradually worse until when he came under observation it was only $\frac{20}{200}$ in the right eye and $\frac{20}{100}$ in the left. The visual fields are said to have been normal for moving objects, the colour fields were limited, and there was a central scotoma. The discs were pale. Under treatment with tonics there was slight improvement only. In this case there was no history of specific disease and no excessive use of alcohol or tobacco, and although the condition is strongly suggestive of tobacco amblyopia, Dr. Weeks thinks it can be excluded because of the absence of such a history, and because of the sudden onset after influenza. From a consideration of this and the various published cases to which he refers in his paper, he believes that optic neuritis after influenza is very rare, and may affect one or both eyes and lead to temporary or permanent impairment of vision, or even to absolute blindness. Failure of vision begins from three to fourteen days after the commencement of the attack, and is always preceded by intense frontal headache. The form of scotoma, he believes, depends upon the position of the

neuritis in the course of the nerve. Treatment has, unfortunately, little effect; and if recovery follows, it takes place spontaneously, and accompanies improvement in the patient's general condition. As to the neuritis which occurs in motor nerve branches, leading to paralysis of ocular muscles, that he believes to resemble that following diphtheria, and to be for the most part similarly transient in its effects.

THE RETIREMENT OF DR. BLAXALL, R.N.

WE recently announced that a vacancy in the medical staff of the Local Government Board had occurred and had been already filled. The vacancy was due to the resignation of Dr. Francis H. Blaxall, and all who knew him will feel that he cannot be allowed to commence that retirement which he has so well earned without a very cordial and sympathetic leave-taking. Dr. Blaxall has had a distinguished career, which commenced by active service as surgeon in the Royal Navy. In this service he received special honourable mention in connexion with his duties in the Baltic Fleet during the Crimean War, he rose to the position of Fleet Surgeon, and he added to the sanitary history of that service by literary contributions, such as his Report on the Epidemic of Malarious Fever in the Mauritius. In April, 1870, he joined the Medical Department of the Privy Council, and subsequently to the formation of the Local Government Board he, in addition to carrying out other work of considerable value, was selected to assist in the formation and administration of port sanitary districts. In this latter task, whether temporary measures owing to risk of impending cholera were concerned, or whether the permanent constitution of the authorities was in question, his previous naval experience was of the utmost value. After a long and honourable public service Dr. Blaxall has been advised to avoid the inclemency of the approaching winter in England, and he is hence about to start for one of our Mediterranean colonies. Dr. Blaxall carries with him into his retirement the affection as well as the esteem and regard of his colleagues, and we heartily wish him restored health and that happiness which he so fully merits.

HANDWRITING AND HYGIENE.

IT will be remembered that at the late International Congress of Hygiene and Demography, in Section 4, which was concerned with the Hygiene of Infancy and School-life, a resolution was passed in favour of the teaching of upright penmanship, or vertical writing, on the ground that spinal curvature and short sight are caused by the faulty position of the youthful student, which is necessitated by the slope of the letters. We can all of us remember the trouble of learning to write, and the mental and physical toil which the making of our first pothooks and hangers involved. The number of muscles put in action when a person is writing is prodigious, and it is probable that in beginners every muscle of the body must yield its assent before the graphic symbols trickle from the pen. The fingers, wrist, elbow, and shoulder must all be held steady. The spine must be rigid and fixed below as well as above. The pelvis must be firm, and to this end the child often gets a support by its feet from the legs of the chair. The thorax is more or less rigid, and its movements are determined more by the work of the hand than the respiratory needs. Lastly, the knit brows and the protruding tongue are unconscious muscular acts which serve to mark the effort, both of body and mind, which the child undergoes when learning to write. It is notorious that in writing our individuality asserts itself in spite of the pedagogue. We are taught certain rules for sitting at the desk and holding the pen, which we ultimately learn to neglect, and finally write in a fashion of our own. The great drawback of writing as an exercise for children is the fact that it involves one half of the body only, and the necessity of fixing the spinal column causes the child instinctively to loll upon its left side while the right arm is working. To what extent the asymmetry of posture is caused by the fashion of sloping the letters it would be difficult to say, but there can be no doubt that the writing master ought to carefully watch the attitude of the child and endeavour to make it sit square to the desk and maintain the spinal column vertical. Every child should have a footstool to give firm support to the feet, and the seat should not be slippery, so that the fixation of the pelvis may be easy. Vertical writing is very legible, and if it diminishes to any extent the tendency to sit "lop-sided," it ought to be encouraged. The true remedy for the evils produced by learning to write seems to us to be to teach the child to use both hands, and to practise alternately with either hand. Vertical writing lends itself more readily to ambi-dexterity than does sloping writing, and there can be no doubt that a clerk who could write with equal facility with either hand, and could rest one side of the body while the other was working, would be little liable to writer's cramp and similar troubles. Seeing how enormous is the muscular effort involved in giving the hand sufficient steadiness, and that the brain fag is scarcely less than the muscle fag, it goes without saying that writing lessons should at first be of very short duration. Ten minutes with each hand ought to amply suffice.

TREATMENT OF MIGRAINE.

IN the *Archiv für Psychiatrie*, Band xxi., Heft 1, Dr. Neftel has a paper on this subject, of which an abstract appears in the *Neurologisches Centralblatt*. He regards the condition as a vaso-motor neurosis, but has nothing new to say about the etiology. As to treatment between the attacks, the circulation must be carefully attended to and kept active. Constipation must be got rid of, which is best effected by the use of diminishing doses of mineral waters and by the use of electricity to the abdomen. Muscular exercise must also be prescribed, and subsequent temporary rest, and nothing should be eaten or drunk until at least half an hour later. Then a cup of freshly boiled water, he says, will be found wonderfully refreshing. The systematic use of electricity to the head is strongly recommended, and Dr. Neftel finds that in some cases the constant current, in others the interrupted, is beneficial. For the attacks themselves electricity also is recommended, together with ergotin for plethoric patients and salicylate of soda for anæmic sufferers, or a large dose of quinine for either class.

PROCURSIVE EPILEPSY.

THE variety of epilepsy to which this name is applied is of great medical interest and of no little medico-legal importance. Dr. John Ferguson of Toronto, in a recent number of the *New York Medical Journal*, cites a number of cases which have come under his own observation, and he formulates a theory to account for the symptoms. The varieties of the disorder are three in number: (1) those in which the procursion or "run" constitutes the entire attack; (2) those in which the procursion immediately precedes an ordinary attack of epilepsy; and (3) those in which the procursion follows the attack or fit. The last variety is said to be very rare. In the cases recorded by Dr. Ferguson, one noticeable fact is the frequency with which short procursive attacks give place in the course of time to ordinary severe epileptic fits. It is also to be noticed that not unfrequently peculiarities of manner, apparently unimportant, such as slight and

transient absent-mindedness, precede attacks of procursive epilepsy. There seems, indeed, to be in many cases a continuous series of phenomena, from the mildest and almost unnoticed attacks of *petit mal*, to attacks of which procursion is the feature until the condition culminates in frequent and severe epileptic attacks. In one of the cases recorded by Dr. Ferguson there were first of all short spells of absent-mindedness. In a few years the patient was observed to make quick short runs, of which he had no knowledge. Finally, at the age of fifteen he had his first severe epileptic fit; after this he sometimes had procursive attacks, wheeling round a number of times in a circle, and then running backward and forward several times until consciousness was regained. Dr. Ferguson is inclined to think that these procursive attacks may be dependent upon discharges in the cerebellar cortex, where he supposes there are centres subserving the sensation of position and poise of the body. The discharge of these centres he imagines leads to the suggested movements, and hence the procursive attacks.

ST. PANCRAS SEWERS.

AS we predicted, the discussion in *The Times* as to the St. Pancras sewers has led the vestry to determine to reconstruct those to which attention has been recently directed. This is a proper solution of the difficulty, and we trust nothing will interfere with the improvement being effected without delay. The sewers have been faulty for many years, and repeated efforts have been made to secure the needful work being done, but it has been postponed until the present time mainly because the public did not interest itself in these questions. Now, thanks to Mr. Lazarus and the powerful advocacy of the press, the public sentiment will tolerate no longer these conditions. We congratulate Mr. Lazarus and the residents in that part of London on the result of their efforts.

MEDICAL AID FOR BURMESE WOMEN.

AMONG other advantages which have resulted to Burmah from its contact with western civilisation, one, by no means the least, is intelligent medical aid. The transfer of this boon was a happy necessity, and several channels were, as usual, open to it. We shall now concern ourselves, however, only with that which owes its existence largely to the Countess Dufferin—the National Association for supplying Medical Aid to the Women of India. A branch of this useful society has been at work among the Burmese for the last four years, and the success attained by it during this period has been most encouraging. In an old bungalow, converted into a hospital for women with fifteen beds, it has received and treated 1013 in-patients and about 2000 out-patients. A number of native women have been instructed in nursing and midwifery, and no fewer than fifty of these have passed examinations and are now practising in various parts of the country as qualified midwives and nurses. It is gratifying to learn that their examiners, who are qualified medical men practising in Rangoon, have expressed themselves as much pleased by the proficiency and practical training of these pupils. The Burman municipalities have often shown a similar appreciation of the work done at the hospital by defraying the expenses of probationers while under tuition, and afterwards providing them with suitable employment. According to latest reports, the old building now in use cannot, on account of dilapidations, be much longer available for hospital purposes. It has therefore become necessary to erect in Rangoon a small new maternity hospital and home for pupil nurses, and funds are still needed to defray the estimated cost. If it be thought that sufficient reason has not been shown for the maintenance of a work so creditable to those engaged in it and so acceptable in the country, we need not do more than refer our readers to a paper read by Dr. T. F. Pedley[1] before the Obstetrical Society. Native Burmese midwifery, as described therein, could scarcely be surpassed for ignorant and violent barbarity. Dr. Pedley adds that "nature is kind, as a rule, to the mother, and carries her safely through." Nature truly had need be kind in the circumstances, and for our own part we rejoice that she will no longer have to fight against such heavy odds. Those who would be wisely charitable could hardly do better than invest some kindly coin with the National Association, or its agent, the National Bank of India, Rangoon.

CEPHALOMETRY.

DR. ALTUKHOFF, one of the anatomical prosectors in the University of Moscow, has published a paper with a number of elaborate diagrams illustrating the position of the various fissures and convolutions of the brain in men, women, and children as taken by Zernoff's cephalometer. This instrument consists of a horizontal brass circle surrounding the head and supporting two vertical graduated semicircles, one longitudinal, the other transverse. The former is made to revolve so that a screw having a radial direction, which it carries, can be applied to any portion of the skull or of the brain after the skull cap has been removed. By means of this the latitude and longitude of any spot may be accurately defined, just as those of any geographical locality may be found on a school globe. Dr. Altukhoff expresses himself as well aware of the work that has been done in this direction by Broca, Giacomini, Turner, Cunningham, Hare, Horsley, Dana, Féré, Rüdinger, and others. His own paper is published in Russian, but the plates are tolerably intelligible without a knowledge of that language.

THE EUROPEAN ARMY IN INDIA.

WE notice that public attention has been markedly called in the daily press to the medical statistics of the European army in India, more especially in reference to the prevalence of enteric fever among the soldiers recently arrived in that country. It is pointed out that the percentage of deaths from this cause in the first and second year of service is nearly fivefold greater than from the sixth to the tenth year. As all acquainted with the medical history of our soldiers in India are well aware, this susceptibility of newly arrived troops to enteric fever is no new discovery, but may now be regarded as an old and well-established fact, seeing that it has been put forward for so many years in the medical and statistical reports of that country. The recently published Memorandum of the Army Sanitary Commission on the report of the Sanitary Commissioner with the Government of India for 1889 not only dwells upon this subject, but calls attention to the very unsatisfactory results of 1889 as regards the general health of the European Army of India. The statistics of 1885 had shown a considerable falling off in the health of the troops; and those for 1889 are, it is alleged, much more unfavourable than the unfavourable results of 1885. The increase in the death-rate is not to be accounted for by the prevalence of cholera, for this disease caused fewer deaths than usual; but enteric fever contributed no less than 423 fatal cases—a higher proportion, says the Commission, than has ever been recorded before. As regards the distribution of this fever, we find that fifty-eight different places in the Bengal Presidency furnished cases; in fact, every cantonment returned one or more, except Delhi. Over Madras and Bombay it was also widely spread. The experience of 1889 merely repeats what has been so frequently observed before, that young soldiers during their early years of Indian service are most prone to

[1] THE LANCET, Jan. 22nd, 1887.

enteric fever. Of every 100 soldiers attacked, 64 were under twenty-five years of age and only 12 were over twenty-nine; 57 were in their first and second year of Indian service, and 20 in their third, fourth, or fifth year. Certain insanitary conditions in some of the localities are mentioned, which have no doubt been remedied. The milk-supply is pointed to as the probable cause of enteric fever, but this assumption does not seem to the Army Sanitary Commission to be warranted by the evidence. If milk were the real cause or vehicle, the children ought to be the greatest sufferers, whereas, as a matter of fact, they suffer very slightly. During 1889, for example, the attacks among them equalled 5 per 1000; among the women the ratio was 8, while among the men it was 22. The important announcement has been made that the special bacillus of typhoid fever has been found associated with the disease in India; hence it is held that the source of *real* enteric fever in that country must be looked for in the contamination of ingesta, and climate must be considered but a secondary influence. The further progress of the investigation will be watched with interest, more especially if it leads to any practical steps being taken to deal with the lamentable prevalence of this fever among young Europeans in India. It is *the* disease of which the young soldier and officer dies in that country.

DR. KOCH ON TUBERCULIN.

IN the current issue of the *Deutsche Medicinische Wochenschrift* Professor Koch makes a "further communication" upon tuberculin. The article is a lengthy one, and will be read with interest in connexion with the recent investigations in this country of Dr. W. Hunter. From a telegraphic communication received from our Berlin correspondent, it appears that Professor Koch's main object has been to determine the possibility of obtaining a purified form of tuberculin, which should be free from producing the deleterious effects sometimes observed with the substance as originally prepared. Such a preparation he claims to have obtained by means of the admixture of alcohol with tuberculin; but it is noteworthy that his experiments upon healthy subjects and on those affected with tuberculosis showed no essential difference in the reactions obtained between the two varieties. The article also deals in great detail with the nature, methods of preparation, and the prescription of the remedy.

THE TREATMENT OF HÆMOPTYSIS.

PROFESSOR H. NOTHNAGEL publishes in a Vienna medical journal an interesting paper on the treatment of hæmoptysis. The first thing, he says, is absolute rest. If the loss of blood is at all serious, the patient must not utter a sound; if it is necessary he should speak, he must only whisper, or better still, write down everything he wants to communicate. He must not be allowed to see visitors, and the sick-room must be kept at an even temperature. The patient must take nothing warm, nor anything likely to excite or irritate. The best food for the first two days is cold milk. Regular diet may then be resumed gradually, but all food which might increase the action of the heart must be avoided in future. Formerly an opinion prevailed that the patient should be allowed to cough, the retention of the blood being supposed to be hurtful, as it was believed that tuberculosis was a consequence of hæmoptysis, but this opinion is quite erroneous. On the contrary, one of the first indications is to suppress all inclination to cough as much as possible, for which purpose morphia is the best remedy. Should the hæmoptysis not cease, other remedies must be applied. The author first mentions those remedies which ought to be eschewed, and the use of which is occasionally a physiological error. The first to be banished is perchloride of iron, the action of which on the blood is to cause it to coagulate and to form a thrombus. In the form of inhalation it would be simply useless but for the great danger in allowing a patient suffering from hæmoptysis to draw a deeper breath than absolutely necessary for respiration. The liquor ferri, if administered internally, is, according to some, not absorbed at all, but, even if it be so, it would only tend to increase the hæmoptysis. The same may be said of tannic acid and of alum, which contract the bloodvessels only when diluted to ½ per cent., and are consequently useless for hæmostatic purposes as well as for inhalation. The author dispenses altogether with inhalation in hæmoptysis. The only two hæmostatic remedies he recommends as useful are ergotine and acetate of lead; the first may be used internally and in hypodermic injections, the latter may be given in conjunction with opium. Another remedy which he mentions, but of which he has himself no experience, is hydrastis Canadensis. A few years ago hypodermic injections of atropine were recommended, and Prof. Nothnagel has occasionally seen them effective. No objection can be raised to half a teaspoonful of common salt when no other remedy is at hand. Hæmorrhage from the lungs is certainly sometimes arrested by its use, but the author is not quite sure if the success is *post hoc* or *propter hoc*. Nor is he certain whether, as supposed by some, a reflex irritation of the pulmonary vessels takes place. This theory is certainly physiologically feasible, as recent experiments have shown that sensory excitement in some parts causes the bloodvessels in other parts to contract. An application of ice, for instance, to the abdomen causes anæmia of the mucous membrane of the larynx. A very common remedy is the application of cold; but the ice-bag is, according to the author, of very doubtful value, as it is impossible to assume that the cold acts directly on the bleeding surface, for we do not know to what depth it penetrates. If the cold does act hæmostatically, the effect must be due to irritation of the skin. Professor Nothnagel warns us, however, that in some people the application of cold to the thorax causes cough, which is far more dangerous than the doubtful contraction of the bloodvessels can be useful. An extreme and heroic remedy is venesection. It is a well-known fact that wounded soldiers faint from loss of blood, when the hæmorrhage immediately stops, and a similar observation has been made in metrorrhagia and hæmoptysis.

TYPHUS FEVER IN LANCASHIRE.

TYPHUS FEVER, which has been absent from the death returns of Wigan for a long period—upwards of twenty years—has reappeared in one of the most insanitary districts. Two families, consisting of nine persons, occupying the same house, were all stricken with the disease. These were removed to the sanatorium which has recently been provided by the corporation; and single cases from the same district have broken out, nineteen cases having been admitted to the hospital. One case proved fatal, whilst the others are convalescing. The disease appeared in one of the poorest and most insanitary districts of the town; and, no doubt, if these early cases had not been isolated and precautions taken, the disease would have rapidly spread. The Town Council have an Insanitary Property Committee dealing with this class of property, compensation being given to owners; but its actions necessarily move at a slow rate, for as yet the corporation have not decided to provide model dwellings for those persons who are unhoused. The town, however, may be congratulated on the provision of an infectious disease hospital or sanatorium, which has cost close on £10,000, and will involve an outlay of over £1000 per year, about 1½*d.* in the pound on the rates; but if outbreaks of infectious disease such as this can be limited

to twenty persons the ratepayers may be thankful. A little more education amongst the representatives of the people—town councillors—would be beneficial, for at a meeting of the Council the other day one of the opponents of the sanatorium and its expenses ventured an opinion that this "typhus" was due to the bad water, evidently thinking there was no difference between typhus and typhoid.

THE NORMAL STATE OF THE ZONULE OF ZINN AND ITS PATHOLOGICAL CHANGES.

DR. R. F. GARNIER has published in a Russian journal a paper on the normal state of the zonule of Zinn and its pathological changes. The author examined eyes with glaucoma, with ciliary staphyloma, and healthy eyes. He contends that the zonule is a network of fibres of various origin, but not a membrane; that the canal of Petit is not formed by the zonule, and that the latter offers but little resistance to the humour. The vitreous membrane, which is situated close to the zonule, does not prevent the humour getting from the vitreous into the posterior chamber. The zonule may be pressed forward by vitreous pressure, without necessarily producing intra-ocular pressure. Filtration ceases, and intra-ocular pressure takes place in consequence, when exudations occur in the zonule, or the latter becomes thickened.

INOCULATION FOR ANTHRAX.

DR. SADONSKI has recently published in the *St. Petersburger Medizinische Wochenschrift* the result of experiments he made for the purpose of studying the question of immunity against anthrax. Cultures of anthrax bacilli were sterilised by heat, and then injected into cats and horses. An increase of temperature took place, which lasted from one to four days, but the animals remained healthy. Twenty days after the last of a series of injections the cats had cultures of virulent anthrax bacilli injected, and two cats, which were to give the desired material, were also inoculated in the same way. The two cats died in six days. Two other cats, previously made immune, died much later, and no bacilli could be discovered in their blood. One cat, which had previously received three injections of sterilised cultures, lived. It soon recovered from the high fever of reaction after the injection with virulent bacilli, and even increased in weight.

COCAINE POISONING.

IN the *Bulletin de Thérapeutique* Hallopeau reports the case of a man, forty-eight years of age, who consulted a dentist on account of caries of a molar tooth, which caused much pain. A solution of one centigramme of hydrochlorate of cocaine was prepared, and about eight milligrammes were injected into the neighbourhood of the decayed tooth. Five minutes after the injection the patient was seized with intense cardiac pain, accompanied by a sense of impending death. The pulse became thready, and so rapid that it could scarcely be counted. The patient suddenly rose and paced about the room, breaking various objects with which he come in contact, and occasionally clutching at the clothing over his heart. He continued in this condition for about ten minutes, after which he became calmer. The same night he was extremely restless, and suffered from severe and prolonged headache. The same symptoms recurred the following day, and, in less severity, for several days afterwards. Hallopeau arrived at the following conclusions: 1. A single injection of hydrochlorate of cocaine may give rise, not only to immediate grave and dangerous symptoms, but also to more prolonged troubles. 2. These troubles consist principally of severe headache, accompanied by general malaise, sleeplessness, attacks of faintness, and prostration, combined with cerebral excitement. 3. Small doses of the drug may suffice to cause the above symptoms. 4. Their duration may be of several months. 5. They are especially observed in subjects of an excitable, nervous nature. 6. They may be attributed to an elective action of the poison on the nervous centres.

MORBID CHANGES IN JOINTS IN SYRINGOMYELIA.

THE *St. Petersburger Medizinische Wochenschrift* publishes a *résumé* of Dr. N. A. Sokoloff's little work on the Morbid Changes in Joints observed in Syringomyelia. These changes occur, according to the author, very frequently. They are chiefly observed in the upper extremities, and are very chronic. A characteristic symptom of these affections, as in tabetic arthropathy, is their painlessness. It is easy to diagnose them anatomically and clinically. Fixation of the joints in the early stage of the complaint, or operative interference in advanced and marked cases, are indicated.

THE ENTRIES FOR THE SESSION 1891-2.

THE winter session having now fairly commenced in the medical schools throughout England, we are enabled to present the following returns of the number of students who have joined the medical classes for the first time this year. In the Scotch and Irish schools the enrolment of medical students is now in progress, and will go on for some weeks. *St. Bartholomew's* entries for the full course amount to 104, for special classes 44, being a total of 148 new students. At *Charing-cross*, 73 first-year students and 7 occasional students have enrolled themselves. In *Guy's*, 124 students have joined for the first time, of whom 23 are first-year dental students; there are also 49 occasional students, including 12 students for the preliminary scientific examination. *St. Mary's* has 76 first-year's and 37 occasional students. At *St. George's*, 47 first-year and 1 occasional have entered. At *St. Thomas's*, 83 first-year students, 24 for special courses, and 13 for the preliminary scientific examination have joined the medical school. The *London* has enrolled 37 students for the full curriculum and 45 occasional students. There are 145 new students at the *Middlesex*, 71 for the full curriculum, 9 dental, 6 preliminary scientific and 59 occasional students. The 112 new students enrolled at *King's College* are made up of 35 for the full curriculum, 14 for the preliminary scientific, and 63 occasional students. At *Westminster* there are 25 first year's and 2 occasional students.

In the provinces the medical schools present the following returns:—At *Cambridge* there are 121 students entered for the course leading to the degrees of M.B. and B.C. At *Durham*, 44 first year, 39 second year, 46 third year, 34 fourth year, and 35 occasional; in all, 198 students have joined the classes in that institution for the first time. *Queen's College, Birmingham*, has enrolled 36 first year's students, 14 for the preliminary scientific, 7 dental, and 29 occasional students. At *Owens College*, Manchester, 161 students have joined, 66 for the full curriculum, 39 for special classes, 8 dental students, and 48 for the preliminary scientific. *Bristol* counts 18 new entries, with 2 occasional students. In *Sheffield* there are 16 new students, 14 for the full curriculum, and 2 occasional students. Other returns have not yet reached us.

FOREIGN UNIVERSITY INTELLIGENCE.

Brussels.—Dr. Van den Corput, Professor of Pharmacodynamics, has resigned.

Erlangen.—In the budget of the Bavarian Landtag several large sums are proposed for additions to the buildings and endowments of the Medical Faculty.

Giessen.—Dr. Ernest Otto Beckmann of Leipsic has been invited to accept the chair of Chemistry.

Graz.—Dr. M. Borgsiekiwicz of Innsbruck has been appointed to the Professorship of Ophthalmic Surgery.

Jena.—A new Professorship of Mental Diseases has just been created, to which Dr. Binswanger has been promoted.

Marburg.—Dr. Kohl has been promoted to the rank of Professor, teaching Vegetable Physiology.

Munster (Academy).—Dr. Kassner of Breslau has been appointed to the chair of Pharmaceutical Chemistry vacated by Dr. Meyer, who has gone to Göttingen.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Professor von Richter, Director of the University Institute of Technical Chemistry, Breslau.—Dr. Clement Joseph Raymond, Principal Medical Officer of the First-class Reserve of the Belgian Army at Liége.—Dr. N. Protopopoff, Director of the Kharkoff Bacteriological Station.—Dr. Bernazki, of Odessa, from diphtheria contracted from a child he was attending.

AT Milan before the last meeting of the Lombard Medical Association, Dr. Segré read the report of the first two years' work of the "Istituto Antirabico," established in connexion with the Ospedale Maggiore of that city. The patients numbered 238. The mortality was 1·26 per cent. The report concludes: "If the Pasteur method for the cure of rabies is not such as to give absolute certainty of cure in every case, it is incomparably superior to all others hitherto practised." The discussion which followed ended in a resolution adopting the report and agreeing with the conclusion above quoted.

ON Monday the 19th inst. in the great hall of the University of Rome assembled the Fourth Congress of the Società Italiana di Medicina Interna. The inaugural discourse was delivered by the President, Dr. Guido Baccelli, and thereafter came the first paper on the agenda: "The Pathology and Treatment of Diseases of the Stomach," by Professors Rossoni and Forlanini. The attendance was numerous, all the Italian schools being represented.

AT a meeting of the Council of Owens College held on Friday last, Dr. Julius Dreschfeld, who for ten years has held the Professorship of Pathology in the College, was, subject to the approval of the court, appointed Professor of Medicine in succession to Dr. Morgan, who has resigned.

SURGEON-GENERAL J. MCG. GRANT (retired), of the Army Medical Department, whose death at Cheltenham we recently recorded, retired from the Service in May, 1879, having entered it in November, 1840. The deceased officer does not appear to have had any war service.

WE understand that Dr. Arthur Gamgee, F.R.S., lately of St. George's Hospital, and Emeritus Professor of Physiology in the Owens College, Victoria University, has obtained the Federal State licence to practise medicine in the Engadine.

NORTHAMPTON COUNTY ASYLUM.—In connexion with this institution, the first training school in mental nursing will shortly be opened. The medical superintendent proposes to receive paying pupils, and to introduce a system of ward management similar to that inaugurated by Miss Nightingale in hospitals.

THE FLITWICK CHALYBEATE SPRING.

A SHORT time since, in the course of the ordinary duties which devolve upon the Analytical department of THE LANCET, amongst many other specimens that had been submitted for examination, certain samples of a remarkable chalybeate water from the Flitwick spring in Bedfordshire aroused much interest and curiosity. So remarkable, indeed, were the results yielded by analysis, that an inspection of the source of the water was deemed advisable. The spring is situated near to Ampthill and Flitwick in Bedfordshire, and the water is found oozing from a fissure in a surface cutting about a foot and a half in depth, and thirty feet in length, through a layer of black peat. The nature of the surrounding soil is of peculiar interest. It consists of crumbly peat, which readily dries, and which is remarkable in containing a very high percentage of oxide of iron. Underneath the peat is a stratum of marly clay, containing as much as 76 per cent. of oxide of iron, in conjunction with, it is stated, alumina and phosphoric acid. Below this is a substratum of dark sand, which is said to belong to the Cretacean period. It is identified by geologists as the lower greensand formation, and is thickly studded with nodules of ferruginous material, the rich brown colour, of course, being due to the iron which enters so largely into its composition. In the lowest portion of the valley in which the Flitwick chalybeate rises is an extensive bed of black peat, consisting in some places of a mass of considerable thickness, and composed of the decayed remnants of vegetal matter, such as bog mosses, sedges, and certain flowering plants. The dip of the valley is so small that all attempts at draining it have proved unsuccessful, and consequently this curious and interesting place has not shared the fate of many other well-known districts which were formerly of a similar character. It is said that this valley is the richest district in the county for rare and curious plants, no fewer than 720 varieties being known to the student of botany.

The temperature of the water is 45° F. at all times of the year, and from this it is inferred that Flitwick water is derived from a deep source leading up to a fissure in the underlying strata. The water is of a clear sherry colour, and not unpleasantly acid to the taste. It does not deposit on standing, and therefore differs in one essential respect from the usual type of the chalybeate waters of England, which commonly contain proto-carbonate of iron held in solution by carbonic acid. On boiling Flitwick water, however, a brown sediment is quickly deposited, and the supernatant liquid is still acid to test paper. The acid reaction, accordingly, is not due to carbonic acid, nor can carbonate of iron be present. Rough tests like these were performed at the spring, but a large sample of the water was secured and sealed under personal supervision, and subsequently examined at greater length in THE LANCET laboratory. Mere qualitative analysis served at once to show that the iron is in the ferric condition, or that of a *per*-salt. Thus ammonium hydrate gave an abundant reddish-brown flocculent precipitate; hydrochloric acid turned the water from a brown to a light amber colour; ferrocyanide of potassium gave a dark-blue precipitate, and sulpho-cyanide of potassium a deep blood-red colouration. Boiling resulted in the formation of a fawn-coloured sediment, which quickly subsided, leaving a supernatant liquid of acid reaction, and evidently containing less iron. Barium chloride in strongly acid solution gave an abundant precipitate, due to formation of sulphate. On removing the precipitate, the filtrate when made alkaline with ammonia, and when more barium salt was added, yielded no further precipitate. When a large quantity of the water was evaporated on the water bath a resinous residue was obtained, which on continued evaporation showed signs of charring, and a smell not unlike burnt sugar was perceptible. This was in all probability owing to the action of sulphuric acid liberated during extreme concentration on the constituents of peaty matter, possibly the so-called humic and ulmic acids. Organic acids of the ordinary type were evidently absent, inasmuch as ammonium hydrate removed the whole of the iron from solution, and not a trace of darkening could be observed when ammonium sulphide was added to the filtered liquid. It is well known that iron in the presence of organic acids,

such as tartaric, citric, and malic, is not precipitated on the addition of alkalies. On continued ignition of the solid matter, a residue consisting practically of nothing but oxide of iron was obtained. Silver nitrate produced a slight opalescence in the water.

So far analysis indicated the presence chiefly of iron in the ferric state associated with sulphuric acid. A quantitative analysis was next conducted, and the following figures express the results obtained in grains per gallon:—

Persulphate of iron	170·80
Sulphate of alumina	28·00
,, soda	14·40
,, calcium	4·76
Silica	traces.
Constituents of peaty matter ...	undetermined.

The deposit obtained on boiling amounted to 42·70 grains per gallon. On analysis this was found to consist of 85·24 per cent. sesquioxide (Fe_2O_3) and 14·76 per cent. of the acid radical, SO_3. Theory requires for the formula of the basic salt $(Fe_2O_3)_2 SO_3$, 85·71 per cent. sesquioxide of iron, and 14·29 per cent. of the sulphuric acid radical (SO_3). The salt deposited on boiling, it may therefore be concluded, is that in which three molecules of ferric oxide are in combination with one molecule of sulphuric anhydride (SO_3).

There exists in Flitwick water, it is evident, a valuable form of iron in remarkable quantity, and a form which, as is well known, is made use of in the Pharmacopœia. But it will be admitted that, apart from the advantages which are likely to accrue from the use of an iron compound of natural production, there is another point worthy of note. From the above results, to wit, it will be observed that so delicately is the iron balanced in solution that mere warming suffices to precipitate a portion of it, and this precipitate contains as much as 85·24 per cent. of ferric oxide combined with a trifling amount of sulphuric acid (SO_3). It is not improbable that iron in this form is eminently fitted for speedy absorption and assimilation into the system. The *liquor ferri persulphatis* of the Pharmacopœia, prepared as directed, is not likely to yield a precipitate on boiling, on account of the excess of sulphuric or nitric acids it is almost certain to contain. For this reason persulphate of iron is not generally prescribed as a remedial agent, the presence of the acids alluded to probably modifying the action of the iron in a marked degree. According to the Pharmacopœia, *liquor ferri persulphatis* is made from a hot solution of sulphate of iron (ferri sulphas) in sulphuric acid and water, by boiling with nitric acid and water. The reaction taking place is generally thus represented: $6\,Fe\,SO_4 + 3\,H_2\,SO_4 + 2\,HNO_3 = 3\,(Fe_2\,3\,SO_4) + 4\,H_2O + 2\,NO$. So made, it is described as a dark-brown, inodorous solution, and miscible with water. Flitwick water, on the other hand, is miscible only with a limited quantity of water, for on adding an excess a precipitate separates similar in composition to that already described. Again, it appears evident that in the Flitwick water the solution of the iron is so finely adjusted that very little disturbance suffices to throw it out of solution, and, as has already been suggested, in a probably valuable form. Statements are made to the effect that Flitwick water does not produce constipation in the same degree as the ordinary salts of iron, and this effect may perhaps be explained by similar reasoning. The taste of the water is agreeably acid and devoid of all "inkiness," and it may be taken in a very palatable form with good lemonade. The Flitwick spring is certainly a remarkable one, and according to the literature on the subject it is doubtful whether any other springs in this country are known at the present time which contain iron in this unique form. The results of its extended use in cases where the medical practitioner knows iron to be indicated will therefore be watched with peculiar interest; and in view of its singularity of character the water of the Flitwick spring may be deemed especially worthy of a trial.

THE ELECTION OF THE DIRECT REPRESENTATIVES.

A MEETING, representative of the medical profession, was held on Wednesday at Dr. Glover's house in Highbury-place, N., for the purpose of hearing the statements of the Direct Representatives on their again offering themselves as candidates for seats on the General Medical Council, the election for which will take place during the ensuing month.

Dr. Glover moved, and Sir Andrew Clark seconded, that the chair be taken by Dr. Stokes, who had on the occasion of the last election acted as the chairman of Dr. Glover's election committee. Dr. Stokes, on taking the chair, reminded the meeting that the circumstances of the case had altered since then. Instead of having to deal with untried men, they had now as candidates men with a long record of valuable work, well and truly done, behind them. There was at present no opposition to their re-election to the Council; indeed, he believed that any such opposition would be resented by the profession as out of place and in bad taste.

Mr. Wheelhouse then gave an account of the work which had been accomplished in the Council during their period of office, and mentioned that the representatives under all circumstances had worked with absolute unanimity for the good of the profession. They had striven for the advancement and thoroughness of medical education by raising the standard of preliminary and professional education, and, above all, they had laboured to increase the value of practical medical education. Their efforts had been successful with, and acceptable to, the Council in a considerable number of cases. That was an assurance that they had done their duty in the past, and that they would continue to do so in the future.

Sir Walter Foster said his colleagues—Dr. Glover more especially—had done work on the various sub-committees, and in connexion with the practical aspect of medical education, which was exceedingly praiseworthy. It was due to their initiative that the work of the Council during the past five years was done. The Council in the penal direction had exhibited an amount of vigour and earnestness that had only existed since there had been direct representation on the Council. The Council had received strength in the execution of its duty out of all proportion to the individual powers of the representatives because they had been able to speak on behalf of the twenty or thirty thousand practitioners in these islands. It seemed an anachronism that nowadays the medical profession should pay all the costs of the expensive organisation of the General Medical Council, and that they should only be allowed five voices out of thirty. That was an anomaly which must be swept away. If the Council would not listen to them, they must agitate out of doors and go themselves to the Privy Council. If the Privy Council would not move in this direction, then the House of Commons or the House of Lords must be looked to to give a just representation to the medical profession. He had given his time ungrudgingly during the past five years. If he had a renewal of their confidence, however hard the labour, and however onerous in any respect might be the duties placed upon him by his professional brethren, it would always be his highest honour and his dearest privilege to fulfil them.

Dr. Glover said the candidates had set an example of union in the Council, and they were now united in their candidature. They had received many letters from all branches of the profession of a most gratifying kind. The candidates not only had the advantage of experience in the past, but if elected with an approach to unanimity they would return to the Council with far greater strength than they had on their first election. They had at that meeting both the head and the members of the profession, and when they acted together the outlook was surely improved.

Dr. Cleveland then moved: "That this meeting, having read the address and heard the statements of the three candidates, takes this opportunity of thanking them for their work in the past five years as direct representatives for England and Wales, expresses its unabated confidence in them, and pledges itself to use its best efforts to secure their re-election."

Dr. Bateman, in seconding, said he had known Dr. Glover for twenty years, and had watched his career with the very greatest interest. He had gone through the mill as a general practitioner. He worked daily—ay, hourly—with his pen and with his voice for the interests of the profession, and to him the profession owed many changes in the Council which could not otherwise have been obtained.

Sir Andrew Clark spoke in support of the motion. He said that, however unworthily and inadequately, he, in a sense, officially represented the whole body of the profession, and on that ground he took this opportunity of expressing his great sympathies with the body of the profession in

what they had won and in what they were seeking to win in the way of representation. But he also felt strongly that the less they called in to their aid those who were already represented the better it would be for them. Their representatives had done all that could have been expected of them, and more a great deal than was expected of them, in the discharge of their duty. He thought their action had been diligent, just, wise, and in a great measure successful; and, above all things, that their conduct had been distinguished by avoiding the advocacy of impossible and impracticable theories. He therefore very cordially approved of their work and warmly supported their candidature.

On the motion of Mr. Malcolm Morris, seconded by Mr. Hugh Ker, those present were formed into a committee to further the re-election of the three present representatives.

Dr. A. J. Cribb proposed a vote of thanks to the chairman, Dr. Stokes, for presiding. This was seconded by Mr. G. E. Keele, and carried with acclamation. The meeting then closed.

THE ROYAL VETERINARY COLLEGE.

THE centenary of this institution, which is situated in Great College-street, Camden-town, was celebrated on Monday afternoon by a luncheon, to which many eminent and influential persons were invited. The Prince of Wales was present, and was received by the Duke of Cambridge, the President of the College. After the luncheon the Prince of Wales, in proposing the toast of "Success and continued prosperity to the institution," expressed the interest he took in veterinary knowledge and science. He said: "The growing importance of veterinary knowledge and science is constantly increasing, from the enhanced value, not only of horses of all breeds, but of cattle, sheep, and pigs, and from their additional liability to infectious disease. I may mention that the illustrious President of this College has on many occasions acknowledged the valuable assistance of veterinary art in connexion with the military service over which he presides. I have watched with the greatest interest how well the Royal Agricultural Society and the College have worked together to their mutual advantage, and also to the advantage of the agricultural interest of the country. That Society has always been foremost in supporting this College. In 1842 it granted £200 a year in assisting to found a chair of Cattle Pathology, and this has recently been increased to £500 per annum in aid of pathology and research, which is now actively engaged in looking for diseases which have been productive of serious loss in live stock." Professor Brown, principal of the College, responded to the toast. Speaking of the position of veterinary science, he said: "Whether or not we might have done more in this century is a question which it would be useless to discuss now; and if it is really the case that the records of the past furnish us with the memory of something which we would rather forget, it also has left us a legacy of rich hope for the future. The modern veterinary surgeon no more resembles the original horse doctor and cow leech than the fashionable physician resembles the barber surgeon and medicine man of ancient times, who furnished the protoplasmic material out of which the art of medicine and surgery has been evolved."

CALENDAR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

FROM the Calendar of this institution, which has just been published by the Council, it appears there are 1111 Fellows of the College (of whom 1096 obtained the Fellowship by examination, 13 were elected as Members of twenty years' standing, and 2 are *ad eundem* Fellows), 16,622 Members, 737 Licentiates in Midwifery, and 745 Licentiates in Dental Surgery. The holders of the diploma in Public Health (granted in conjunction with the Royal College of Physicians) number 86.

During the past collegiate year 850 candidates presented themselves in elementary anatomy and physiology, of whom 500 passed in both subjects, 36 in elementary anatomy, 87 in elementary physiology, and 50 candidates were referred in both subjects; 95 candidates presented themselves in elementary anatomy, 75 of whom passed; 82 presented themselves in elementary physiology, of whom 75 passed. The examiners are appointed in conjunction with the Royal College of Physicians. The fees received from candidates for this examination amounted to £3914 8*s.*, the examiners receiving as fees £570 15*s.* Of 526 candidates who presented themselves in chemistry, 328 passed and 198 were referred. Of 744 candidates who presented themselves in materia medica, 443 passed and 301 failed. The Examiners in Chemistry and Materia Medica are elected by the Royal College of Physicians.

The Examiners in Anatomy and Physiology for the Second Examination are appointed annually in conjunction with the Royal College of Physicians; they have conducted the Primary Examination under the old regulations, as well as the Second Examination of the Examining Board; 863 candidates presented themselves for examination in anatomy, 538 passed and 325 were referred; 952 candidates presented themselves in physiology, of whom 568 passed and 384 were referred. The fees received from these examinations amounted to £4151 3*s.* 6*d.*, the examiners receiving in fees £1576.

The Board of Examiners in Anatomy and Physiology for the diploma of Fellow, consisting of nine members, annually elected by the Council from the Fellows of the College, held during the past year two examinations, and 243 candidates presented themselves, of whom 109 passed and 131 were rejected. The fees received amounted to £1050, and the fees to the board to £709.

During the year the Court of Examiners has held two Examinations for the Fellowship and four for the membership; at the former there were 81 candidates, 54 of whom passed, 3 being referred for one year and 24 for six months. For the Membership there were 706 candidates, of whom 410 passed and 296 were referred. The fees paid by candidates amounted to £6359 6*s.* 6*d.*, and the fees paid to the Court of Examiners and the Examiners in Midwifery to £4086 14*s.* The Examiners in Medicine under the scheme for an Examining Board in England are elected by the Royal College of Physicians. Of 639 candidates who presented themselves for this examination during the year, 459 passed and 180 were referred.

The Board of Examiners in Dental Surgery held two meetings for the examination of 70 candidates, 42 of whom received the diploma. The fees paid by them amounted to £441, the board receiving £294.

With regard to the finances of the College, it appears that the income from all sources amounted to £36,953 4*s.* 3*d.*, the largest receipt being, as already shown, derived from fees paid by candidates for the diplomas of the College—viz., £19 393 17*s.* 6*d.*, the next largest being from sale of stock, £8352 17*s.* 9*d.*; incidental receipts, hire of rooms, sale of Calendars, Questions, &c., £602 7*s.* 2*d.*; rents from chambers adjoining the College, £700; investments, £6807 7*s.* 3*d*; trust funds, £252 2*s.*; fees retained for candidates, £714; balance at bankers, Midsummer-day, 1889, £712 2*s.* 7*d.*

The expenditure for the year amounted to £34,119 3*s.* 7*d.*, leaving a balance of £712 2*s.* 7*d.* The item represented by fees to examiners amounted to £9178 1*s.* Extension of College premises cost £9428 11*s.* 1*d.*; half expenses, Examination Hall and laboratories, £5708 13*s.* 11*d.*; salaries, wages, and pensions for officers and servants in three departments, museum, library, and office, amounted to £4630 10*s.* 3*d.*; rates, taxes, and insurance absorbed the sum of £1808 10*s.* 8*d.*; alterations and repairs, £280 1*s.* 5*d.*; extraordinary expenses, £302 9*s.* 2*d.*; fees returned to candidates, £688 15*s.*; law expenses, £187 0*s.* 3*d*; half expenses, Savoy estate, £2047 7*s.* 2*d.*; and fees to Council, £274 1*s.* Under miscellaneous items—fuel, light, printing, stationary, trust funds, lectures, &c.—about £2500 appears to have been expended.

THE SCOTTISH LUNACY REPORT.

THE thirty-third annual report of the General Board of Commissioners in Lunacy for Scotland does not favour optimistic views as to the condition and prospects in respect of the mental health of the community subject to their

jurisdiction. They have to record a marked increase in the number of admissions to asylums as compared with the preceding year, and also with the average annual number of admissions during five years before, and, notwithstanding a comparatively heavy mortality rate, the number of patients provided for in asylums shows an increase of upwards of 240 registered lunatics as compared with 1889. There is no doubt much truth in the remark, frequently made, which is quoted in the present report, "that we have a different class of persons to deal with in the insane of the present day from those who constituted the lunatics in bygone years. In former times asylums were only used as the receptacles of those lunatics who had been found unmanageable or furious;" whereas now "persons of weak mind, of defective memory, and of varying degrees of imbecility are included among the insane." Considerations of this sort may serve to explain the marked growth in the numbers of the insane which has been observed since the institution, say, of the Lunacy Commissions; but surely some other considerations must be taken into account when an explanation of the steady increase, year by year, as shown in the statistics of this report, is sought for. The statistics of general population, of pauperism, of influential, social, and commercial changes, of alterations in official procedure and in legislative enactment, must be considered, in order that the question of the proportional numbers of the insane in any country may be fully investigated. Of course if the pauper statistics stood alone, it would be possible to take the sanguine view that the increase in the proportion of insane paupers was due to a reduction in the aggregate number of paupers, since any such reduction of numbers would obviously take effect principally upon the class of paupers who are able in body and capable in mind. And, indeed, to some extent this is the case, for a diminution in the aggregate pauperism is recorded in the Commissioners' tables. But, unfortunately, in spite of this circumstance there is an absolute growth in the number of pauper lunatics, so that the proportional increase of the insane among paupers does not result merely from natural changes in the classification of a diminishing population. It is also alleged, by way of explanation, that the guardians of the poor are learning year by year to rely more and more on asylum treatment for such of their paupers as are of weak intellect; but we should be glad to have this statement verified by actual figures.

A feature of the treatment of the insane according to Scottish practice to which the Commissioners continue to refer in favourable terms and with some emphasis is the boarding-out system, by which patients whose condition renders them fit subjects for this treatment are placed in private families and taken care of in a domestic way. That this method has many recommendations is very obvious, for it has proved eminently successful in Scotland. To patients whose mental infirmities and aberrations are chronic and do not absolutely disqualify them for domestic intercourse it is manifestly an advantage to substitute the family circle for the regimen of an asylum. The case is well put, and at the same time fortified by the experience referred to in the following passage from the report: "The experience of the Board has led them to the view that patients who do not require asylum treatment should be placed, as nearly as their condition will permit, in the position which they would have occupied had they been of sound mind, sharing the interests and joining in the occupations of the sane." Patients in this situation are under the supervision of the Commissioners, and are visited in the same way as those in the various asylums. Much experience is thus gained concerning what may be termed the domestic aspect of insanity, and from time to time useful records of individual cases are given in these reports. The general drift of such references is unmistakably favourable to the system; and although it is admitted that a certain number of cases occur in which the results are not found to be satisfactory, a very confident opinion is entertained by the Commissioners that upon the whole this constitutes a very valuable form of treatment. It is hardly necessary to add that their opinion carries with it very great weight. Although we believe the circumstances of the domestic life in England would lend themselves less completely to such favourable results as the Scotch Commissioners are able to record, we are still of opinion that their experience ought not to be lost sight of, and that more might be done both in England and in Ireland in this direction if stronger efforts were made.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Pancras.—Dr. John F. Sykes is able to report a marked improvement in the general sanitary administration of St. Pancras as a result of the increase in the staff of the sanitary department, an increase which, amongst other things, has added four unattached sanitary inspectors to the former officers. The general death-rate for 1890 was 21·8 per 1000, the census population being 95,776. The mortality from diphtheria has undergone a substantial increase. In 1889 there were 62 diphtheria deaths, in 1890 the number was 141. No less than 387 cases of scarlatina, or half the total heard of, were removed to hospital, but only one-fourth of the diphtheria cases were so dealt with. The heavy fatality from diphtheria in the metropolitan isolation hospitals will have to be understood and coped with before the public can be expected to appreciate the advantages of isolation in hospital as a method for preventing the spread of this disease.

St. Giles.—Mr. S. R. Lovett gives the death-rate of St. Giles during 1890 as 22·8 per 1000, the decennial average being 23·0; and the infantile mortality is set down as 16·0 per 1000 registered births. The incidence of the various zymotic diseases in the district is considered at some length, and the question of diphtheria is discussed. But happily the mortality for 1890 in St. Giles was below the average. A somewhat full account is given of the various conditions affecting the housing of the working classes; indeed, St. Giles is a parish where much has been done to improve matters in this respect. Activity is, however, well maintained, and insanitary lodgings and dwellings are constantly being dealt with.

Maidstone Urban District.—Mr. Matthew Adams discusses the question of vital statistics at some length, and he finds the death-rate for 1890 to be 13·8 per 1000, it having also been very low for some years past. Diphtheria caused 11 deaths, and, after considering and eliminating other causes, Mr. Adams comes to the conclusion that his experiences of the previous year as to the association of this disease with irregular oscillations of subsoil water were justified by the additional data procured. Much improvement has taken place in the borough with regard to the collection and disposal of house refuse, but the arrangements still need to be improved by the appointing of a proper place of deposit. So, also, a public abattoir is much needed in replacement of a considerable number of private slaughter-houses, which are mixed up among dwellings. On the question of water-supply, the report makes it clear that much is needed in order to get rid of wells attached to premises in this ancient borough, and Mr. Adams's remarks as to this are worthy of being recorded. He says: "It would be ludicrous, if it were not too serious a matter to laugh at, to observe the confidence with which some analysts, being strangers to the district, have presumed to pronounce favourably upon the sanitary purity of well water in cases where, by the help of local knowledge, one finds irrefragable evidence of serious organic pollution; for remember, it is not a question of the *chemical identification of a definite substance* known to be the cause of disease that is possible." Mr. Adams is an expert in chemistry as well as a distinguished health officer, and his words should carry weight.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5674 births and 3281 deaths were registered during the week ending Oct. 17th. The annual rate of mortality in these towns, which had been 18·4 per 1000 in each of the preceding two weeks, declined to 18·2 last week. The rate was 16·3 in London and 19·7 in the twenty-seven provincial towns. During the thirteen weeks of last quarter the death-rate in the twenty-eight towns averaged 18·1 per 1000, and was 2·3 below the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 9·4 in Derby, 14·2 in Huddersfield, 15·0 in Leicester, and 15·6 in Newcastle-

upon-Tyne; the highest rates were 24·4 in Cardiff, 24·7 in Norwich, 25·5 in Blackburn, and 25·8 in Wolverhampton. The deaths referred to the principal zymotic diseases, which had declined from 600 to 469 in the preceding three weeks, further fell last week to 445; they included 182 from diarrhœa, 75 from whooping-cough, 72 from "fever" (principally enteric), 41 from measles, 38 from diphtheria, 37 from scarlet fever, and not one from small-pox. The lowest death-rates from these diseases were recorded in Halifax, Birkenhead, Huddersfield, and Bristol; the highest rates in Norwich, Preston, Bolton, and Sunderland. The greatest mortality from measles occurred in Newcastle-upon-Tyne, Norwich, and Sunderland; whooping-cough in Oldham, Cardiff, and Wolverhampton; "fever" in Nottingham, Salford, Sunderland, and Bolton; and diarrhœa in Wolverhampton, Portsmouth, Norwich, Blackburn, and Sunderland. The mortality from scarlet fever showed no marked excess in any of the twenty-eight towns. The 38 deaths from diphtheria included 25 in London, 3 in Hull, and 2 in Liverpool. No death from small-pox was registered in any of the twenty-eight towns; 1 case of this disease was under treatment on Saturday last in the Highgate Small-pox Hospital, but not one in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1289, against numbers increasing from 947 to 1218 on the preceding six Saturdays; the patients admitted during the week were 179, against 169 and 172 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 171 and 223 in the preceding two weeks, further rose last week to 237, but were 43 below the corrected average. The causes of 57, or 1·8 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Birmingham, Bradford, Cardiff, and in six other smaller towns; the largest proportions of uncertified deaths were recorded in Liverpool, Hull, Blackburn, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·5 and 20·0 per 1000 in the preceding two weeks, declined again to 18·7 during the week ending Oct. 17th, but was 0·5 below the mean rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 14·7 in Edinburgh and 16·9 in Perth to 22·3 in Leith and 25·4 in Greenock. The 482 deaths in these towns showed a decline of 32 from the number in the preceding week, and included 19 which were referred to diarrhœa, 11 to "fever," 10 to scarlet fever, 9 to diphtheria, 8 to whooping-cough, 5 to measles, and not one to small-pox. In all, 62 deaths resulted from these principal zymotic diseases, against 71 and 85 in the preceding two weeks. These 62 deaths were equal to an annual rate of 2·4 per 1000, which almost corresponded with the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had declined in the preceding three weeks from 49 to 32, further fell last week to 19, of which 8 occurred in Glasgow and 6 in Edinburgh. The deaths from "fever" were within 3 of the number in the previous week, and included 8 in Glasgow and 3 in Dundee. The fatal cases of scarlet fever, which had been 11 and 6 in the preceding two weeks, rose again to 10 last week, of which 4 occurred in Aberdeen and 3 in Greenock. The 9 deaths from diphtheria showed a decline of 3 from the number in the previous week, and included 3 in Glasgow and 3 in Dundee. The 5 fatal cases of measles showed a further decline from recent weekly numbers, and included 4 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 66 and 91 in the preceding two weeks, further rose last week to 111, and exceeded by 20 the number in the corresponding week of last year. The causes of 32, or nearly 7 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the preceding three weeks from 27·7 to 23·0 per 1000, rose again to 24·6 during the week ending Oct. 17th. During the thirteen weeks of last quarter the death-rate in the city averaged 21·1 per 1000, the rate for the same period being 17·4 in London and 16·1 in Edinburgh. The 164 deaths in Dublin during the week under notice showed an increase of 11 upon the number in the preceding week, and included 9 which were referred to different forms of "fever," 9 to diarrhœa, 2 to whooping-cough, and not one either to small-pox, measles, scarlet fever, or diphtheria. In all, 20 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 2·0 both in London and in Edinburgh. The deaths referred to "fever," which had been 5 in each of the preceding two weeks, rose to 9 last week, a higher number than in any week since November last. The fatal cases of diarrhœa, which had declined from 20 to 16 in the previous three weeks, further fell to 9 last week. The 2 deaths from whooping-cough were below those recorded in any recent week. The 164 deaths in Dublin included 40 of infants under one year of age, and 33 of persons aged upwards of sixty years; the deaths of infants showed a further decline from recent weekly numbers, while those of elderly persons showed a slight increase. Two inquest cases and 2 deaths from violence were registered; and 37, or nearly a fourth, of the deaths occurred in public institutions. The causes of 26, or nearly 16 per cent., of the deaths in the city were not certified.

THE SERVICES.

THE Greenwich Hospital pension of £50 a year for Fleet and Staff Surgeons, rendered vacant by the death of Staff Surgeon John Jolliffe, has been awarded to Fleet Surgeon Fleetwood Buckle, M.D.

Surgeon-Major J. F. P. McConnell, M.D., F.R.C.P. Lond., has been gazetted to the office of Second Physician to the Medical College Hospital and Professor of Materia Medica.

Surgeon-Captain J. P. Hayes has been ordered from Aldershot to London for duty with a view to his taking up the Adjutancy of the Volunteer Medical Staff Corps.

REWARD FOR DISTINGUISHED SERVICES IN BURMAH.

Surgeon-Captain George Scott, Army Medical Staff, late of Aberdeen, has just been awarded the Burmah medal and clasp for his distinguished services in Upper Burmah during the campaigns of 1887–1889. He served with marked ability in two trying expeditions against the Kachin and Shan tribes, as well as in several punitive expeditions against neighbouring Dacoits. During the Kachin expedition he wrote an elaborate medico-topographical report, in which he advocated the value of the Kachin Hills as a sanatorium for Upper Burmah. The ability of this report was specially mentioned by the Commanding General in his despatches. He was starting on the expedition against Khan Leign when he was ordered to Peshawar, where he remained for over a year. He was then selected to take charge of the health station at Cliffden, in the Muvvee Hills. This position he still holds.

ARMY MEDICAL STAFF.—The undermentioned Surgeon-Lieutenant-Colonels retire on retired pay (dated Oct. 21st, 1891):—George John Gibson, M.D., Alfred Henry Ratigan, and Benj. Bloomfield Connolly, F.R.C.S.I. The undermentioned Surgeon-Majors to be Surgeon-Lieutenant-Colonels (dated Sept. 30th, 1891):—John Dallas Edge, M.D., F.R.C.S.I., Robert Vacy Ash, M.B., Chas. Edwd. Dwyer, Frank Edward Barrow, Robert Blood, M.D., Henry John Waller Barrow, Wm. Percy Bridges, Robert Drury, M.D., and William Cameron Grant, M.B.

INDIAN MEDICAL SERVICE.—The Queen has approved of the following promotions among the officers of the Indian Medical Service made by the Governments in India:—*Bengal:* Brigade Surgeon Jas. Cleghorn, M.D. to be Deputy Surgeon-General (dated Aug. 13th, 1891).—*Madras:* Surgeon-Major James Smith to be Brigade Surgeon (dated Oct. 12th, 1890).

YEOMANRY CAVALRY.—Royal Wiltshire (Prince of Wales's Own Royal Regiment): Surgeon J. B. Maurice, M.D., is granted the honorary rank of Surgeon-Major (dated Oct. 17th, 1891).

NAVAL MEDICAL SERVICE.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Henry Beaumont has been placed on the

Retired List of his rank, at his own request.—The following appointment has been made at the Admiralty: William Davis to be Surgeon and Agent for St. Dogmael's and Aberporth divisions (dated Oct. 26th, 1891).

VOLUNTEER CORPS.—*Royal Engineers:* 1st Lanarkshire Surgeon S. J. Moore, M.D., is granted the rank of Surgeon-Major, ranking as Major (dated Oct. 17th, 1891).—2nd Volunteer Battalion, the Prince of Wales's Volunteers (South Lancashire Regiment: Surgeon and Surgeon-Major (ranking as Lieutenant-Colonel) R. A. Gaskell resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated Oct. 17th, 1891).

VOLUNTEER MEDICAL STAFF CORPS.—*Infantry:* Staffordshire Brigade: Surgeon and Surgeon-Major H. M. Morgan, 2nd Volunteer Battalion, the Prince of Wales's (North Staffordshire Regiment), to be Brigade Surgeon, ranking as Lieutenant-Colonel, (dated Oct. 17th, 1891).

Correspondence.

"Audi alteram partem."

THE DIRECT REPRESENTATION OF THE MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—We have read a letter from Dr. Rentoul in THE LANCET of Oct. 17th in which he puts ten questions to us as candidates for the Medical Council. The majority of these questions, happily for us, refer to subjects on which we have already, by our actions and our votes in the Council, given an affirmative reply of the most practical kind. We are prepared to use the strongest powers of the Council for the repression of unqualified practice and to watch keenly for any opportunity of increasing these powers. As regards the minimum age of qualification, the changes we have already advocated, and in a large degree initiated, will raise the age practically to twenty-two, and even more. The question of uniformity of fees for registrable qualifications is not within the province of the Council, but we sympathise entirely with the wish to have the fees for corresponding examinations made uniform in the different divisions of the kingdom, as we do with the wish to make the consolidation of the examining bodies complete. Lastly, with regard to the question of midwives, we have secured a committee of the Council for the purpose of watching legislation in connexion with the registration of midwives, and on that committee we shall use our best efforts to protect the interests of the profession.

We are, Sirs, your obedient servants,

C. G. WHEELHOUSE.
B. W. FOSTER.
J. G. GLOVER.

Oct. 20th, 1891.

DIPHTHERIA AND NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—I would beg permission to occupy a further small space in your columns in reference to diphtheria mortality. Since the appearance of THE LANCET of Oct. 10th, I have had time to enter more fully into the subject, and also to read more carefully the annotation. In quoting my opinion that possibly "a proportion of deaths formerly certified as due to tonsillitis, sore-throat, or quinsy, possibly also to croup and laryngitis, may now be certified as due to diphtheria," part of my opinion was doubtless unintentionally omitted. I think that it should have been added that I continued: "it is also possible that deaths from scarlatinal sore-throat may be similarly certified."

The monthly figures in the annual report of St. Pancras for 1890 point to the date of the advent of notification as marking an increase of deaths from diphtheria; but, apart from the monthly numbers the annual figures afford a strong presumption that a modification of nomenclature is taking place. Notification came into force in the fourth quarter of 1889, therefore in the following table I have taken the annual periods from the beginning of the fourth quarter of one year to the end of the third quarter of the following year, and the table embraces the two years previous to notification and the two subsequent years up to date:—

Deaths.	1887–88.	1888–89.	1889–90.	1890–91.
Laryngitis	17	13	15	16
Croup	35	5	8	9
Sore-throat	6	4	6	5
Scarlatina	52	33	20	37
Total of the above	110	65	49	67
Diphtheria	65	52	129	97
Total	175	117	178	164

It will be observed in the three lower rows of figures that as the diphtheria deaths have increased in number the deaths from the other diseases have decreased, and that is most marked in the first year of notification. The suddenness in the change of the monthly numbers was, as I have already stated, not marked in the metropolitan figures, but upon going further into the matter curious support is given to the inference that probably a modification of nomenclature is taking place in at least two diseases by the following figures for London during the last four years:—

Deaths.	1887.	1888.	1889.	1890.
Scarlatina	1447	1209	784	876
Diphtheria	961	1301	1588	1417
Total	2408	2510	2372	2293

It will be observed that *pari passu* with the fall in scarlatina there has been a rise in diphtheria. Although the effect of notification is not here apparent, I am nevertheless indebted to its effect in St. Pancras for drawing my attention partly to the matter, and I would draw the attention of others to this inversion of numbers. Possibly other interpretations may be forthcoming. Without any intention to minimise or magnify the serious aspect of the steady increase of diphtheria, to purposely blind our eyes to the difficulties in the diagnosis of the disease and the errors arising therefrom would be suicidal. Mr. Wheelhouse is reported in this week's issue of THE LANCET to have pointed out the deficiency in instruction in zymotic amongst other diseases, and it is an open secret that hundreds of men are launched annually into practice without having seen, probably, one single case of many of the infectious diseases. I would invoke your powerful influence to recognise what is only emphasised by notification—namely, that there are numbers behind and rocks ahead for the good ship Infectious Diseases Acts, which will not be escaped unless clinical instruction in infectious diseases is made compulsory at the helm.

I am, Sirs, yours faithfully,

Oct. 17th, 1891. JOHN F. J. SYKES.

"THE USE OF ANTISEPTICS."

To the Editors of THE LANCET.

SIRS,—Briefly, in reply to Mr. Charles H. Taylor, let me say that he is perfectly welcome to infer that I gave up what he is pleased to regard as pathology; in fact, he may go further and assume that I never had it. I certainly should not care to occupy my attention with such a mass of confusion as his letter indicates. Between the years 1855 and 1890 a vast number of detailed improvements have entered into our hospital methods, and it would be perfectly impossible to arrogate for any one of these the difference in hospital mortality which is apparent everywhere. I have no doubt that if we were to have a full knowledge of the conditions of the Derby Infirmary at the first of those years, it would be found essentially different from its arrangements at present, in an enormous number of particulars. Here, then, is the pathological as well as the logical inconsistency of Mr. Taylor. He says that during the last two years there have been only two deaths from what he calls "septicæmia" in the Derby Infirmary, and in these the antiseptic treatment had not been very strictly applied. The assumption is, therefore, that if the antiseptic treatment had been strictly applied, these deaths would not have occurred; certainly the logical conclusion is that they ought not to have occurred. This means that some person has been guilty, according to Mr. Taylor's facts, of criminal neglect. There ought to have been two inquests over these two cases and two committals for manslaughter, if Mr. Taylor's conclusions can be logically maintained. And in relation to this conclusion it is interesting to note that Mr. Charles H. Taylor is the house surgeon to the Derby Infirmary and is fresh from King's College Hospital, and

probably therefore in possession of the most recently developed details of Listerism. On the other hand, some £70,000 is now being asked for from the Derbyshire public to be spent in the rebuilding of the Derby Infirmary. If Mr. Taylor's views and statements are correct, and the simple application of some method of antiseptics known to him and having such marvellous results can exclude the surgical scourge now going by the name of "septicæmia," there can be no need of a new infirmary. If, on the other hand, there is need of a new infirmary, Mr. Taylor's statements cannot be relied upon, and I leave him to settle which horn of the dilemma is least disagreeable to him.

I am, Sirs, yours obediently,

Birmingham, Oct. 16th, 1891. LAWSON TAIT.

To the Editors of THE LANCET.

SIRS,—The syllogism of which the major premisses are "absolutely disputed" by Mr. Lawson Tait does not belong to the most important argument of my letter and does not affect materially the main issue. But the disputed premisses are strictly true. The phenomena of inflammation modified only by the anatomical peculiarities of the parts are essentially the same in whatever organ or tissue they may appear. The series of inflammatory processes which occur on exposure of a dental pulp are closely analogous to those which are observable in a wounded joint or other similar cavity. The sequels to these morbid processes consist of inflammation of bone with its investing periosteum—inflammation of the bony covering of the tooth roots (cement) and of the alveolar walls which encase them—leading to suppuration and abscess or exostosis, absorption, and necrosis. The morbid phenomena here displayed, although in miniature, are identical with those occurring on a larger scale in similar structures elsewhere, and their treatment is therefore based on those general principles which form the common foundation of practice throughout the whole range of surgery.

My second statement was with regard to a vast class of cases which formed the opprobrium of dentistry before the antiseptic method was understood and practised, and is also correct; but I am quite willing to modify its terms for the purpose of the present argument, and to say instead that the treatment of these cases was in the old days as uncertain and unsatisfactory as that of the class of cases in general surgery mentioned by Mr. Taylor in his pithy letter in THE LANCET of this date. In the old days the surgeon in presence of a severe wound—a compound fracture or injury opening a joint—had to consider the almost certain supervention of suppuration and of surgical fever, with the chance of septicæmia; and he was led to perform amputation in a large number of instances merely to avert these dangers. Such practice nowadays would be simply barbarous. In parallel cases of tooth disease the practitioner had to explain to the patient the uncertainties of treatment, and warn him, where septic conditions existed, that a virulent attack of acute local inflammation might be the result of interference. Comparatively few patients were willing to submit to such an experiment, and the result was wholesale extraction of teeth affected by diseases which, thanks to the antiseptic method, are at the present time curable with the utmost certainty. The power of rendering foul surfaces aseptic, and of preserving in an innocuous condition necrotic tissue and blood-clots necessarily left within wounds, is entirely conferred by the use of antiseptics. Whatever difference of opinion may rightly exist as to the part which germs take in causation of diseases of the zymotic type, there is no room for doubt as to the important part they play in the production of septic conditions in wounds; nor can there be any doubt as to the effect of agents in checking their action. The facts, it seems to me, are demonstrable, and have been sufficiently demonstrated. They are enough to establish the principles of antisepticism, and those principles are not overthrown, as Mr. Tait seems to imply, because mistakes may have been made in forming methods of treatment upon them. Until Mr. Tait can overthrow the principles upon which the antiseptic system is based, and explain away the deductions from experiments in practical surgery made on a vast scale by ten thousand observers, he is not likely to obtain many followers even in that limited field of operation in which alone he claims to speak with authority.

I am, Sirs, your obedient servant,

Wimpole-street, Oct. 17th, 1891 HENRY SEWILL.

"A THEORY OF SEX."

To the Editors of THE LANCET.

SIRS,—I crave permission to be allowed to reply to the critics who have passed my paper on "A Theory of Sex" in review in your pages. I have to thank my critics for their fair and reasonable statements made in opposition to my views; but I may add that in some instances it would have been a little more satisfactory to me had one or two of my opponents addressed themselves more strictly to the details of my paper than to ventilating theories of their own. Dr. Kerr, in your issue of Oct. 3rd, first of all cites a fact with reference to the impregnation of cows, which I think with him supports my theory that early or pre-menstrual fertilisation produces a male birth, while late (or post-menstrual) impregnation results in a female birth. His idea that my theory will not account for a twin birth in which one child is male and the other female may readily be refuted. It is not necessary to suppose that the two ova of a twin conception are fertilised at the same time; otherwise, how could super-fœtation occur? or how could twin children, one black and one white, have been born? Spermatozoa are known to be capable of living many days in the generative passages. What, then, is to hinder, say, a male fertilisation taking place pre-menstrually, and a second (or female) fertilisation a few days later—both children being born at the same time? We must bear in mind that the vitality of an ovum is only a matter of days, not weeks; and a second ovum fertilised after the first has, it seems to me, exactly the chance to develop a female birth. On the basis of my theory it is equally easy to suppose that the simultaneous fertilisation of two ova, or at least their impregnation in their early stage after extrusion, would give us male twins. Mr. W. Butler seems, in his turn, to think that the cause of sex may not be dependent upon "scientifically discoverable conditions." He terms it "a mystical problem akin to that of biogenesis." Well, biogenesis is not "mystical" on the germ theory surely; and I know nothing of those "higher vital and spiritual laws" alluded to by Mr. Butler as probably influencing the sex of the fœtus. Such expressions sound strange in the mouth of a scientific medical man in the nineteenth century. Further, I do not know what Mr. Butler means when he says that I assert that "woman's weakness is responsible for and not dependent on her sex." I only deal with facts as Nature presents them to me, and neither Mr. Butler nor I can reasonably argue about what is "woman's weakness," or what is her strength. I may dismiss Mr. Butler's criticism with the remark that as an ovum surely matures, and as surely dies if unimpregnated, so it must of necessity lose vigour as it passes from ovary to tube and from tube to uterus. It may die in the tube for aught I know; but one thing is certain—namely, that as a living cell it must decline, just as it came to its maturity and fulness. If so, then fertilisation of the feeble ovum is bound, in my opinion, to produce a widely different result than when the ovum is impregnated in the full flush of its vigour. If Mr. Butler, as seems from his letter, chooses to deny that the condition of the ovum, *qud* fertilisation, is without effect, I leave him in full possession of his opinions; only he must not blame me if I say his views are not consistent with physiological expectation. Dr. Walter K. Sibley thinks that connexion in mammals is mostly post-menstrual. Is this so? I venture to doubt it. Is a bitch in heat allowed to wait till after the lapse of her "period" for impregnation? And is a cow or mare made to wait till late on in her heat for the male? In animals with plural births, like dogs or cats, fertilisation must be a process extending over a relatively long period after impregnation. On my theory the first and stronger ova fertilised become males, and the later ones females. Again, if Dr. Sibley thinks post-menstrual fertilisation in man is the more common, he is probably explaining to us, unconsciously to himself, the gross excess of females in our populations. I do not say that the sperm cell plays no part and the ovum all parts in the evolution of sex. Dr. Sibley and I are equally ignorant of the exact part the sperm cell plays in impregnation. That which I lay stress on is, given fertilisation, it acts upon a living cell which is the more bulky element in the process, which furnishes the actual material for cell division and for body building, and which is therefore much more likely to be the element influenced by nutrition as a factor in its develop-

ment. Spermatozoa may possess some influence according to their mead of vitality in affecting sex. Personally I do not think so, for the reasons just given. Mr. Hassall Huntley refers to Jewish marital practices, and avers that Jews do carry out my theory in their sexual relations. I fail to see how otherwise I could designate an ovum, fertilised long after the period of purification, as other than pre-menstrual—that is, belonging "to the next period due." Mr. Hunter will perhaps understand that I implied the death of the ovum during the purification period succeeding its extrusion. The relatively fewer female births among the Jews result, to my way of thinking, from the chance survivals of ova *after* the purification period has passed.

In your issue of Oct. 10th a further instalment of criticisms appeared. Mr. Charles R. Straton sent you a detailed statement of great general interest. Some of his arguments I have already replied to in the course of my answers to other critics, given above. Mr. Straton's objection urged in the case of cows may have pitted against it the opposite experience of other observers (*vide* Dr. Kerr's letter in your issue of Oct. 3rd); but as it is clear Mr. Straton makes his own conditions as to the exact time at which a cow's ovum is fertilised, I can afford to let his remarks on this point pass without further reply. "The great body of facts," Mr. Straton says, "support Messrs. Geddes' and Thomson's views." Did he omit to note that in my paper I showed cause for belief that what applies to invertebrates and lower vertebrata does not apply to mammals? Surely I may put my theory against that of my friend's without of necessity incurring Mr. Straton's criticism for my daring? His remarks that I neglect the spermatozoon I have disposed of in my reply above to Mr. Sibley. Mr. Straton's lecture on insect fertilisation is very interesting, but is beside the mark. I expressly bargained for the consideration that while females come to the front in lower life they "take a back seat" among mammals. Does Mr. Straton think it fair and philosophical to argue that mammalian sex is therefore to be judged, as to its causation, as we may judge of, say, insect or amphibious sex? It may be of importance to any species to maintain both sexes as he suggests, but as a biologist he will be familiar with many exceptions to this rule in nature, and as a sociologist he may be able to tell us how and why females predominate in civilisation. But these matters lead us astray from the pathway of my speculation, and I leave Mr. Straton with the remark that, open to conviction as I am, he has failed to show cause why I must renounce my views on sex-causation and adopt his in their place. The physical changes to which he alludes seem to me to be just as consistent with my theory as with other speculations about sex in lower life. Finally, Mr. Louis E. Stevenson's objection to considering the ovum the "stronger germinal element" (I do not imply anything in the way of general "strength" as between ovum and spermatozoon) will be answered again by my reply to Dr. Sibley. He ventilates a theory of his own, that the "relative vitality" of the ovum and spermatozoon at the time of impregnation determines sex. Am I, then, to consider that Mr. Stevenson agrees with me that the question is one of nutrition? As to his idea of "relative strength," I confess that I cannot argue about such a delicate and abstruse condition as between spermatozoon and ovum. It may suit Mr. Stevenson to believe that a healthy male may impregnate a badly nourished woman's ovum (pre-menstrually) and that a male birth will result, or that "a healthy vigorous ovum will carry all before it," but these are simply Mr. Stevenson's own views; they are no criticism of mine. With these remarks I leave the matter for the present. I need not say that I should at any time be pleased to receive any details which favour or militate against my theory, which, I may add, is not unsupported by facts such as I have been able so far to gather and glean in reference to human births.

I am, Sirs, yours &c.,

Edinburgh, Oct. 1891. ANDREW WILSON.

DEATHS UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 17th you record two more deaths under chloroform. In one case it was administered to a lad of eleven years of age for the extraction of three teeth. He is simply reported as having "died during the operation." Fuller details are of course necessary in order to make any observation concerning this particular case. But I would take this opportunity of referring to the employment of chloroform for dental purposes. The extraction of a tooth, though a very simple and extremely common operation, is as a rule a very painful one. It is possible that the frequency of the operation breeds a slight tendency to a diminished appreciation of the distressful subjective sensations of the patient, who is conscious of the operation from incomplete narcosis. When awake, the pain of an extraction as a rule produces no specially dangerous symptoms, since the stimulation of the vaso-motor and vagus centres in the medulla by the operation counteract one another. If, however, only partial anæsthesia be induced, the vaso-motor centre may be paralysed, whilst the vagus reflex has not yet been abolished. Hence the great liability to an arrest of the heart's action from the unantagonised stimulation of the vagus. Now, with chloroform the heart's action is depressed, except in the very initial stage. We have thus, in a case of incomplete anæsthesia under chloroform, the strong stimulus to the still sensitive vagus centre of a conscious extraction acting on an already enfeebled heart. What is the deduction from the foregoing? Surely that, for even a single extraction, if chloroform be administered, its full anæsthetic action should be induced. But what is the most favourable condition for the inhalation of chloroform? Is it not when the patient is at rest in bed, recumbent, clad in a loose garment, and has abstained from food for some four or five hours prior to the operation? The very opposite condition obtains in the case of a visit to the dentist, in addition to the state of apprehension which is so common an accompaniment. The patient is often in a sitting posture, at most semi-recumbent, is clothed in every-day garments, has in many cases partaken of food shortly before the operation, and has been subjected to the effort involved in going to the dentist. He is thus surrounded by a chain of the most adverse circumstances for chloroform narcosis. Given, however, that its successful administration has occurred, and that the necessary teeth have been extracted, what is the ensuing condition of the patient after so minor an operation as the drawing of a tooth? A state of drowsiness, dizziness, faintness possibly, nausea and vomiting perhaps—at any rate, a feeling of utter inability to move for some considerable time. The truth is, chloroform as a dental anæsthetic ought to be abolished. The only exceptions that might be urged in its favour are when in remote country districts gas or ether are not to be obtained, or in the case of children requiring a clearance of several teeth at one operation. In these latter, convulsions are so frequent with gas, particularly if at all pushed, that it is a difficult matter to extract more than three or four teeth at a sitting. In such cases, however, care should be taken that all garments are quite loose, that food has not been taken for some few hours previously, that the child is lying down, and that complete unconsciousness has been obtained.

I am, Sirs, yours obediently,

PERCY EDGELOW,
Anæsthetist at the National Dental Hospital.

Old Burlington-street, Oct. 16th, 1891.

To the Editors of THE LANCET.

SIRS,—In your annotation, "Deaths under Chloroform," you state in to-day's issue, "forty odd years have not made our chloroformists so expert as to ensure every possible danger being avoided"; and, allow me to add, a hundred more years may pass, and the same condition of affairs exist at its termination, unless a radical change is made in the teaching and examination of the medical student. He is called on to study the most difficult and least frequent of operations on the body—operations that not one in a thousand practitioners ever see, much less are called on to perform. He spends month after month studying how to stain bacilli and diagnosticate unusual diseases, and is never required to know anything of chloroform, ether, methylene, bromide of ethyl, or any other anæsthetic. Not one in a hundred of the average medical students could give you the formula for chloroform or ether, or tell how they are supposed to produce anæsthesia. The history of anæsthetics is almost unknown. When engaged on my book, "Anæsthetics: Ancient and Modern," I was necessitated to go to

the British Museum Library for works on the history of chloroform and ether. The licensing bodies do not examine on the subject of anæsthetics, and students consequently do not study it, and thus in forty years no progress is made. To know how to give chloroform, ether, and other anæsthetics is vastly more valuable than to be able to stain bacilli or to know how to catheterise a urethra.

I am, Sirs, yours truly,

GEORGE FOY, F.R.C.S.I.

Cavendish-row, Rutland-square, Dublin, Oct. 17th, 1891.

THE CHANCELLORSHIP OF EDINBURGH UNIVERSITY.

To the Editors of THE LANCET.

SIRS,—The Chancellorship of the University of Edinburgh is vacant through the death of the late Lord President of the Court of Session. Lord Rosebery, Lord Bute, Mr. A. J. Balfour, and Judge Kinnear are spoken of for filling the post. Why should we not put forward a member of our profession? The position is honorary, and is only given to men of eminence. In the medical profession both in Scotland and England there are men second to none of those above-named, and we should easily be able to put one in, as the medical graduates greatly outnumber the other graduates, and the appointment lies with the graduates. As a local man is wanted, who could be got better than Sir Douglas Maclagan? The election takes place on the 30th inst.; if anything can be done it must be done at once.

I am, Sirs, yours truly, O.

Oct. 20th, 1891.

LIFE INSURANCE AND THE MEDICAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—All well-wishers for the good of the community, especially the medical portion thereof, must thank you for the trouble you have taken in endeavouring to ascertain the best method of insurance for medical men, by which they can secure a provision against old age, and also, in the event of an early death, leave their families provided for.

A useful system for medical men would be that of paying small premiums in the early years, at the time when a man is establishing himself in practice, and is less able to bear heavy premiums, and, later on, when the income has increased, higher premiums. The great obstacle to insurance is not the want of means to do so, it is the disinclination, and often selfishness, shown by some persons having no thought but for the present, the future welfare of their families being a secondary consideration. They find money for clubs, amusements, tobacco, drink, and expensive hobbies, but on being asked to insure say they cannot afford the premium, or they are so old the premium will be so high. Of course it requires a little self-denial, but it is a man's duty, and should be a privilege, to practise it for the sake of his family.

I am, Sirs, yours faithfully,

Brighton, Oct. 20th, 1891. EDWARD HUSSEY, M.D.

LECTURES ON PUBLIC HEALTH.

To the Editors of THE LANCET.

SIRS,—Perhaps you will permit me, through the columns of your valuable journal, to acknowledge the receipt of a very large number of signatures from members of the profession to the memorial to the General Medical Council upon the necessity of lectures on public health in the medical curriculum. Members who have received the memorial will much facilitate the printing by returning it as early as possible. I will be glad to send copies to others interested in the proposal.

I am, Sirs, yours faithfully,

ANTONY ROCHE, M.R.C.P.I.,

Dublin, Oct. 19th, 1891. Hon. Secretary.

THE THIRD CONGRESS OF ITALIAN HYDROLOGY.

(FROM A CORRESPONDENT.)

IN self-defence Italy is pushing her resources in medical hydrology to the front. She sees herself out-distanced by other countries less rich than she in mineral waters, and she spares no effort to get on even terms with them and take her proper position in the running. It is only since she has become a united kingdom that she has been able to develop these resources on a really national scale. *Viribus unitis*, she is capable of a combined movement impossible to her when a mere conglomeration of small kingdoms and petty duchies. That movement has for its main body the associated hydrologists of the peninsula, who meet periodically in session, and who have just concluded their third great congress at Turin. As at other gatherings of the kind, the reading and discussing of papers formed the agenda, and of these the majority are of real professional interest, far beyond the Italian frontier. Dr. Maggiora's paper on the waters of Andorno employed by way of douche was interesting for its demonstration of the reinvigorating effect they had on the muscular system in a more than merely tonic sense; while the same waters were shown by Dr. Canova to have a useful action in anæmia when associated with the graduated exhibition of iron. One of the most fruitful discussions was that on Dr. L. C. Bargonzio's paper, "Sulla Idroterapia Moderna nella Epilessia," which gave a lucid account of the beneficial results achieved in such neuroses at the Stabilimento di Cossilla. This was followed by others, hardly less instructive, on "The Duration of the Hydro-Thermal Cure," by Professor Palma of Naples, and on "The Acque Leopoldine of Montecatini," by Dr. Casciani. In this paper a clear case was made out in favour of the Montecatini source in many abdominal affections, including plethora and biliary calculi, for which patients have had hitherto, at great expense and inconvenience, to betake themselves to one or other of the Hungarian spas. Dr. Casciani's paper should have the effect of inducing many winter tourists in Italy to give Montecatini a trial in the spring, before their return to England. Other communications of much medical interest were Dr. Morselli's, on "The Balneary Cure (in winter) of Atrophic Children"; Dr. Bergesio's, on "Massage in Gynæcology"; and Professor Fazio's, on "The Action, Topical and Elective, of some Mineral Waters," on the discussion of which Dr. Fedeli of Pisa brought his great clinical experience at Montecatini effectively to bear. One feature, though an incidental one, of vital importance for the patient at Italian spas was elicited in the discussions—the greatly improved hotel accommodation now available at these resorts. Italy had much leeway to make up in this particular, and her mineral waters, efficacious as they are, and the resident consultant staff, able and accomplished as it is, have had to suffer from the inferior arrangements as to lodging, cuisine, and attendance, which have been too long the rule, particularly at her southern spas. Now all this is changed; and, particularly at sources like Montecatini, where the Government has intervened, the visitor has no reason to complain of the conditions under which he is housed and fed. Railway communication, too, is much accelerated; and the genial warmth of the Italian spring and autumn (the summer, especially in the dog-days, is apt to be too sultry), is an additional factor in favour of treatment at her watering-places. The steadiness of the weather, for one thing, admits of that continuous exercise in the open air which co-operates so effectively with the judicious use of the waters.

STRYCHNINE AS AN ANTIDOTE TO SNAKE POISON.

AN Australian correspondent furnishes us with a few particulars of the use of strychnine as an antidote to snake poison—a method of treatment of the bites of venomous snakes brought under the notice of the profession by Dr. A. Mueller in a series of articles recently published in Australian medical journals.

Strychnine, in connexion with snake poison, has been experimented with at Calcutta, London, Melbourne, and Dorpat, since it is the very drug to which the symptoms of snake poisoning point as the most promising antidote; yet all experimenters, from Sir Joseph Fayrer to Dr. Feoktistow, after a series of unsuccessful experiments, hopelessly abandoned the task of finding a physiological antidote for snake poison.

A country practitioner at the antipodes discovered the antidote, and for years practised its use with unfailing success, when Feoktistow, misled by his experiments, rejected it. Both published the result of their researches almost synchronously, and Mueller's theory of the action of snake poison, derived from a careful analysis of the symptoms he observed in his patients, was identical in every particular with that drawn by Feoktistow from his splendid and exhaustive experiments. Fully convinced that he had to deal with paresis and paralysis of the motor and vaso-motor nerve centres, and that all symptoms found a ready explanation by this merely functional derangement, Mueller injected the antidote freely, boldly venturing, within less than an hour, on quantities of the drug that would have been fatal but for the antagonism existing between the two poisons. Scores of cases have been placed on record from all parts of Australia.

Deaths from snake-bite under strychnine treatment are extremely rare, and it would almost appear that in the few fatal cases on record, out of an overwhelming number of successful ones, reluctance to proceed to very large doses has been the principal cause of failure, for in some instances from half a grain to a grain of strychnine has been required to turn the scale in favour of the patients. Alcohol, in the presence of snake poison, has no stimulating effect at all, but asserts this effect at once after the snake poison has been neutralised by the antidote. This undoubtedly proves the utter uselessness of large doses of alcohol in snake-bite; they have rather a depressing than stimulating effect.

Another error our Australian experiences have exposed as such is the alleged difference between the action of the poison of the Viperina or Colubrina. It has been stoutly maintained by all, and more especially by Indian authorities on the subject, that whilst the poison of the Colubrina is a nerve poison, that of the Viperina is as surely a blood poison. The most deadly of our snakes, Acanthophis antarticus, the death adder, belongs, as the name implies, to the Viperina, but its poison yields readily to the strychnine, and no trace of blood-poisoning remains.

To explain the causes of failure in the experiments on animals is, in view of the successes on man, scarcely called for. With regard to dogs and cats, it is very evident that their motor nerve centres react very differently from those of man to both snake poison and strychnine. They show greater resistance to the former, for convulsions are not unfrequent at a stage when, in man, paralysis is all but complete. Whether strychnine will cope as successfully with the poison of Indian and all other snakes remains to be proven. The probabilities are in its favour, as there is scarcely room for doubting that all snake poison acts according to one uniform principle, and that apparent differences are quantitative or the result of concentration on different parts of the motor nerve centres.

Yackandandah, Victoria.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Washerwoman and Sanitation.

AT a late meeting of the Newcastle City Council (sitting in committee on the provisions of a new Parliamentary Bill) it was sought to provide that, in times of infectious disease any person or company earning a living by washing or mangling clothes should, if required, furnish a complete list of their customers during the preceding six weeks, for which the corporation would pay at the rate of 6*d.* for every twenty-five names, no such payment to exceed 3*s.* Penalties to follow. After much discussion, in which the proposition was characterised as silly, cruel, and harsh, and many amendments were suggested, it was altogether expunged as being the best course. Fancy the corporation going to law with, say, a thousand washerwomen!

Sunderland.

The infantile mortality of Sunderland still continues high. Last week, of the deaths, thirty-four were of children under five years of age, giving alone a rate of 13·4.

The Water-supply on Tees-side.

The much-vexed question as to the purity of the water at present supplied to the large Tees-side towns is likely to be soon settled, as it is announced that the works at the Blackton reservoir would be so far advanced during the next six or eight weeks that it would enable the Hury reservoir to be filled by Jan. 1st. Moreover, the gravitated main was being laid at the rate of a mile per month, six miles out of the sixteen being now completed.

Health of Middlesbrough.

The health of Middlesbrough is now reported by the medical officer to be more satisfactory than it has been in any record, the death-rate having fallen as low as 13 per 1000. At the last meeting of the Tees port sanitary authority it was mentioned that on Sept. 26th a steamer had arrived from a Spanish port with a crew of twenty and eleven passengers. A few days later a letter was received from the Glasgow medical officer that one of the passengers had been removed to the hospital with small-pox. As the vessel had to proceed to Blyth and Barrow, notification had been sent to the medical officers there, but no further cases had been observed, although a strict supervision had been kept over the crews and passengers. As to the case of small-pox on board, it would appear the disease had been contracted at Bilboa, where the man had lived six years, and where small-pox was prevalent. As to small-pox in Middlesbrough, it had now been practically stamped out.

A New Home.

A new vocation is opening up for ladies in one of our lake-side towns, where a home is to be established to train them as nurses for children. The "course" is to extend for one year. A writer in one of our local papers asks: "Will the promoters hire children of varying tempers and dispositions for the embryo nurses to exercise their talents upon?" It is not very clear, however, how the raw material in the way of children is to be obtained.

Tyne Port Sanitary Authority.

At the last meeting of the Tyne port sanitary authority it was stated that, during the past two months, a total of 1801 vessels had been inspected. Of these, 940 were coast-wise, and 861 from foreign ports. Of the vessels, 171 were found to have sundry sanitary defects, and 17 structural defects had been attended to. On the question of the supply of water from boats and tanks in the river, it was decided that these should be periodically examined as to cleanliness.

The late Storm on Northern Fells.

A verdict of "Death from exhaustion and exposure" was returned at the inquest held on Friday last by the coroner for the North Riding on the body of John Dent, aged twenty-seven, flockmaster. Deceased and two others had gone over a fell in Lunedale to see after sheep which were exposed to the storm, and when within three miles of home, on returning, he became exhausted. His companions carried him a mile and a half and then went to a farmer's house for assistance. When help arrived, however, Dent was dead.

Newcastle-on-Tyne, Oct. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Edinburgh.

DURING the month of September the total number of deaths was 322, making the death-rate 14·74 per 1000. This is slightly below the average of the corresponding month for the last five years, the average for these years having been 14·77 per 1000. As regards districts, the rate in the New Town was 12·03 per 1000; in the Old Town, 20·01 per 1000; and in the southern districts, 11·04 per 1000. Of the total deaths, 34·16 per cent. were of children under five years, 15·21 between five and thirty, 27·63 between thirty and sixty, and 22·98 above sixty. The deaths from diseases of the chest were 23·60 per cent., and 13·35

were due to old age and debility. Zymotic diseases caused 16 deaths, of which 3 were from typhoid fever, 2 from diphtheria, 2 from scarlet fever, 2 from measles, 4 from whooping-cough, and 3 from erysipelas. The birth-rate during the month was 24·46 per 1000, there being 261 males and 273 females born. For the quarter ending with September the death-rate has been 14·91 per 1000, while the average for the corresponding quarter for the last five years was 15·50. During September 129 cases of infectious disease were reported, while the intimations for the quarter numbered 633, of which 350 were measles, 171 scarlatina, 41 diphtheria, and 71 typhoid fever The number of cases treated in the City Hospital during the month was 149.

Unsound Meat in Edinburgh.

During the month of September 13,914 lb. of unsound meat were seized, 10,773 lb. being from the country, and 3141 lb. from the city. It consisted of 11,715 lb. of beef, 1042 lb. of mutton, 76 lb. of ham, 241 lb. of pork, 180 lb. of veal, and 660 lb. of fish.

Graduation Ceremonial in Medicine.

On Wednesday of last week a special graduation ceremonial was held in Edinburgh for the "capping" of candidates who had passed their final examination at the special examinations recently held. There were forty-eight graduates present, and the ceremony of capping was performed by Sir William Muir, the Vice-Chancellor of the University, the graduates being presented by the Dean of the Medical Faculty, Professor Fraser. These special ceremonials are usually held in private, but the ordinary course was departed from owing to the number of graduates, so that their friends might attend. It was held in the Natural History Class-room.

The Chancellorship of the University of Edinburgh.

Under the ordinances of the University Commission the office of Chancellor, vacant by the death of Lord President Inglis, requires to be filled up at the first meeting of the General Council two months after the vacancy occurs. The next meeting of the Council is on Friday, the 30th inst., and as two months will have elapsed since Lord Inglis's death, the office falls to be then filled. Mr. A. J. Balfour, M.P., is to be nominated for the post, and so far no one has been nominated in opposition to him. Should a double nomination take place, a ballot may be demanded, and this is effected by means of ballot papers issued to the members of the General Council. Mr. Balfour has won for himself such distinction both as a man of letters and as a statesman that to the members of Council in Edinburgh his nomination appears to be highly satisfactory.

Vacancies at the Royal Infirmary, Edinburgh.

It is understood that the managers at their last meeting decided to appoint two new assistant physicians. The names mentioned in connexion with the appointments are those of Dr. William Russell, who has been pathologist to the infirmary for several years, and is known by his contributions to medicine and pathology; Dr. Ralph Stockman, a lecturer on materia medica in the school of medicine, and known from his contributions to scientific pharmacology; and Dr. Murdoch Brown, well known to many old students at the University as having held for the best part of two decades the post of clinical tutor to the University physicians.

The Edinburgh Professor of Moral Philosophy on Hypnotism.

Professor Calderwood, lecturing on this subject the other day, pointed out that hypnotism was simply a new name for mesmerism. The condition was one of artificially induced sleep, which was, however, a lucid sleep. As regards the mode of producing the sleep, he said it was quite clearly shown that it was nothing in the nature of electricity or magnetism, and that no influence emanated from the body of the operator. The result, he contended, was brought about by the wearying of a single organ or line of nerve. Many people, and he thought probably all people, were liable to it, but not against their will. The condition during the mesmeric sleep was torpor, the cataleptic state, or the state of the somnambulist. He warned his audience against being mesmerised at all. He approved of the study of hypnotism by medical men for the cure of disease and as an anæsthetic, but condemned public exhibitions, and thought they should be prohibited by law. Professor Calderwood also discussed the relation between the hypnotist and his patient, and thought it absurd to suppose that the operator, by his will, regulated the action of his patient, but that the hypnotist must make the suggestion clear to the patient, who interpreted and applied it for himself.

Opening of the Medical Winter Session at Aberdeen.

The Medical Winter Session was begun on Tuesday, and there was a fair attendance of students. Professor Cash, in opening the materia medica class, delivered a lecture on Examinations. Professor Reid intimated that the new anatomical prize to be called "The Struthers' Medal and Prize" would now be open for competition. On Wednesday the classes of surgery, midwifery, physiology, and pathology were opened, in the last subject Professor Hamilton delivering an able lecture on Immunity from Disease. At a meeting of the Senatus of Aberdeen University on Saturday afternoon, Principal Geddes presiding, Professor Finlay was formally inducted into the Practice of Medicine Chair in the University.

Dispensary, Vaccine, and Lying-in Institution, Aberdeen.

The annual report of this Institution, which has just been issued, shows that the total number of cases treated during the past year was 10,769, being an increase on the previous year of 226. The number of ordinary and zymotic cases was 8666, being an increase of 137; in midwifery, 212, a decrease of 32; vaccinations, 482; dental operations, 833; ear and throat diseases, 305; diseases of women and children, 211. The cost of medicines during the year was £243 19*s.* 9½*d.*, as compared with £261 for the previous twelve months. During the year only one legacy, amounting to £4 10*s.*, was paid to the institution, and in their report the committee appeal for a greater degree of support to the funds of the institution. The total income was £1030 7*s.* 7½*d.*, and the total expenditure £895 4*s.* 2½*d.*

University Extension.

At a meeting of the Aberdeen University Court, held on Tuesday afternoon the question of university extension was under consideration. The Lord Rector, the Marquis of Huntly, moved that "the court record its appreciation of the municipal liberality of Aberdeen, and approve the Marischal College scheme, and remit it to a committee to arrange for a public meeting, to be presided over by the Chancellor of the University, the Duke of Richmond and Gordon, to get public support for the scheme." Colonel Ramsay seconded the motion. The Rev. James Smith moved that "it was inexpedient at present to decide on a scheme of large and costly buildings such as that proposed." Dr. Angus Fraser seconded, not because he approved of Mr. Smith's motion, but because he wanted delay to thrash the subject out.

Health of Aberdeen.

Last week showed a decided decrease in the number of cases of zymotic diseases reported. The decrease was wholly in cases of scarlet fever. During the week the following cases were notified to the medical officer of health:—Scarlet fever, 34; typhoid fever, 4; whooping-cough, 14; and erysipelas, 4. In his report for September, Dr. Hay says that there was a very marked increase in the number of cases of scarlet fever, 115 cases having been reported, as against 43 in the preceding month. Towards the end of the month it was found that many of the cases occurring then were the result of infected milk from a dairy farm, at which two domestic servants were discovered to be suffering from scarlet fever. The milk-supply was stopped and the servants removed to the City Hospital. During the month only one case of death from scarlet fever was reported.

Unwholesome Food.

During the month of September the sanitary inspector of Aberdeen seized and destroyed as unfit for human food 1964 lb. of beef, 31 lb. of mutton, 42 lb. of veal, 376 lb. of pork, 46 lb. of fruit, and 21,112 lb. of fish.

Sick Children's Hospital, Edinburgh.

The trustees of this hospital have received the sanction of the Edinburgh Dean of Guild Court to take down and remove the hospital building in Lauriston-lane. Some time ago, owing to defective drainage, fever broke out among the

patients and nurses, in consequence of which the establishment was temporarily transferred to the old Morningside College. The new building will be erected on the old site.

October 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians.

ON the 19th inst. Dr. J. Magee Finny was re-elected President, and Dr. Arthur Foot was elected Vice-President for the ensuing year. At the same meeting the Fellows re-elected Dr. Atthill representative of the College on the General Medical Council. The following members were elected to the Fellowship—viz., Mr. Ninian Falkiner, M.B., and Dr. Jas. Craig, assistant physician, Meath Hospital.

Royal Academy of Medicine.

The annual elections of office-bearers for the ensuing year, and of a President for three years, will take place on Friday, the 30th. Dr. Gordon, the outgoing President, will give a conversazione the previous evening in the Royal College of Physicians, Kildare-street.

St. Vincent's Hospital.

Mr. Tobin, on Tuesday, the 20th, delivered the introductory lecture for the present session. The hour fixed—viz., 4.45 P.M.—was an improvement on the usual hour (11 A.M.), as it permitted many to be present who otherwise might be engaged at hospital or elsewhere.

Census Report for County Longford.

The population by the last census was 52,647, showing a decrease of 13·7 per cent. as compared with that of 1881. Upwards of 2000 received poor-law relief in 1881, as contrasted with 1434 in 1891. The births registered in the county during the past decade amounted to 11,592, while the deaths numbered 8829. The number of illiterates show a decrease of 6·9 per cent., while those who can read and write have increased by 11·2 per cent. During the ten years 11,786 persons emigrated from county Longford.

Queen's College, Cork.

The chair of Chemistry, vacant by the resignation of Professor Simpson, has been conferred upon Professor Dixon of the Galway College, and formerly Assistant Professor of Chemistry in Trinity College. This will cause a vacancy in the Chemistry chair of the Galway College.

Death of Surgeon Chaplin, J.P., of Kildare.

This gentleman died on Wednesday at the Infirmary House, Kildare. He was an ex-president of the Royal College of Surgeons.

Mr. Robert Woods, M.B., B.Ch., Surgical Travelling Prizeman, T.C.D., has been appointed surgeon for diseases of the throat to the Richmond Hospital. Mr. Woods studied at Vienna under Professor V. Schroetter.

The Lord Ardilaun memorial statue will be unveiled on March 17th (St. Patrick's Day) next year. Lord Ardilaun is at present ill from an attack of typhoid fever.

The Local Government Board have approved Mr. Barker being appointed compounder of medicines to Grand Canal-street dispensary, South Dublin Union, at a salary of £125 a year, with an allowance of £10 for coal and gas.

Oct. 20th.

PARIS.

(FROM OUR OWN CORRESPONDENTS.)

Physiological Treatment of Certain Skin Affections.

AT a recent meeting of the Academy of Medicine M. Dujardin-Beaumetz communicated certain observations of M. Semmola of Naples on what he termed the physiological treatment of some cutaneous affections. There exist, he pointed out, certain forms of eczema and psoriasis, which become manifest during the warm season, and disappear as soon as the cold sets in. These eruptions are determined by the irritant action of products eliminated by the skin. The general nutritive exchanges being modified and the sudorific function being suppressed, the organism is, as it were, forced to rid itself of these products of incomplete oxidation by the cutaneous surface under a more concentrated form, and with a somewhat different chemical composition. In such cases it suffices to adopt a purely physiological method to bring about the cure of the eruption—that is to say, it is necessary to re-establish the equilibrium between the activity of the organic exchanges and the depurative functions of the skin. With this object the patients are submitted to the prolonged action of baths of 30° to 35° C. during two to three hours from the commencement of September. After four weeks of this treatment daily douches are substituted for the baths, and continued all the winter every other day. As an aid to the above treatment M. Semmola prescribes, where there is any scrofulous taint, iodide of sodium in liberal doses, or, if there be any suspicion of gout or rheumatism, the bicarbonate and phosphate of sodium.

Curative Influence of Exploratory Laparotomy.

At the Surgical Society M. Bazy recorded some observations made on the curative influence of exploratory laparotomy. In the month of October last year he operated on a man for the radical cure of hernia. The operation was successful, and the patient made a good recovery. A month afterwards the patient again presented himself with apparently an abdominal tumour in the region of the umbilicus, accompanied by diarrhœa, gastric disturbance, and fever. M. Bazy thereupon performed abdominal section, and came upon a tumour about the size of a fist, retro-peritoneal and adjoining the vertebral column. Believing it to be cancerous, he left it untouched and closed the abdomen. At the first dressing of the wound six days afterwards the tumour appeared to have greatly diminished, and a week later he could hardly feel it. He had seen his patient again recently after the lapse of a year, and found him in apparently perfect health, with no trace whatever of the tumour. In another case, not long ago, he had operated on a woman of thirty-five who had a fibroid tumour which gave rise to considerable hæmorrhage. The general condition not being favourable for hysterectomy, he merely removed the uterine appendages. Fourteen days after the operation the temperature rose to 40·4° C without any apparent cause. He now reopened the abdomen for the purpose of inspection, but found nothing abnormal. His intervention consisted in simply opening the abdominal cavity, no washing or dressing being undertaken; nevertheless, the very next day the temperature fell to 37·6° C, where it remained until the complete healing of the wound.

Another Hospital Crisis.

Some short time back there was a hospital crisis at Marseilles brought about by difference between the administrative authorities and the resident medical staff of the hospital, which threatened to leave the charity without any resident medical officers. The matter, however, was arranged amicably, and no more has been heard about it. Now it is the turn of a Paris hospital, for at the Lariboisière a few days ago a similar conflict, owing, however, to a different cause, was only just averted between the resident staff and the administrative authority. The quarters occupied by the former are, it appears, in close proximity to those of certain *employés* of the hospital, one of whom complained of the "noise of music" &c. during sleeping hours, and one of the residents being specially designated as chief offender, he was reprimanded. Rightly or wrongly, his comrades considered he was treated unjustly, and threatened to resign in a body unless the censure was revoked. M. Strauss, on behalf of the Council of the Assistance Publique, and Professor Hardy, representing the residents, arranged the matter amicably, and the incident, which was made much of in the public press, is at an end.

A Plethora of Medical Literature.

According to a report issued in connexion with the Budget of the Ministry of the Interior, there are published in Paris alone 145 medical journals, besides eight pharmaceutical! Now, of lay publications of all kinds, there are only 161; but then, "ars longa, vita brevis!"

Paris, Oct. 20th.

WATERLOW PARK, HIGHGATE.—It is proposed to commemorate Sir Sydney Waterlow's generous gift of this property, for the use of the public, by the erection of a suitable memorial in the grounds.

Obituary.

HENRY THURSTAN BASSETT, M.B.LOND., M.R.C.S.

PARTICULARS have recently reached us respecting the death of Dr. H. T. Bassett, which occurred at the early age of thirty-three at Steytlerville, near Uitenhage, Cape Colony, on Sept. 8th. Dr. H. T. Bassett was the son of Dr. John Bassett of Birmingham, and commenced his medical studies at the Queen's College in that city, whence he passed to Guy's Hospital, where he went through the usual medical curriculum, and occupied the various offices assigned to students, ending by being house physician to Dr. Moxon. During this time he graduated at the University of London in the honours division. After spending a winter in Vienna he returned to his native city and joined his father in practice. He was elected honorary surgeon to the Skin and Lock Hospital, and when fairly established he married, and had a bright prospect before him. In the spring of 1888, after an arduous winter's work, his health failed. It was thought imperative that he should try a warmer climate; he accordingly went to South Africa, and settled in a rising village in the Karoo. Here his health for a time greatly improved, and he soon acquired a large and lucrative practice; but his pulmonary symptoms never became quite quiescent. A few months since they reappeared, and after a period of ever-increasing weakness he passed away. The *Uitenhage Chronicle* says of him: "Dr. Thurstan Bassett was gifted with a pleasing exterior; he also possessed a quiet and impressive manner and a well-stored mind. Those among whom his lot was cast, and among whom he died, became not only his patients but his friends. Urbane and sympathetic, he will long live in the memories of those who sincerely regret the loss of a brilliant physician and faithful friend."

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: THE FINAL FELLOWSHIP.—We are requested to state that it has been found necessary to alter the date of the Final Fellowship from Monday, the 23rd, to Wednesday, the 18th of November.

UNIVERSITY OF CAMBRIDGE.—At a Congregation held on the 14th inst. the following Degrees were conferred:

Doctor of Medicine.—William Arthur Evelyn, Gonville and Caius.

Bachelors of Medicine and Bachelors of Surgery.—Arther Geo. Phear, Trinity; Robert Curzon Mollison Colvin-Smith, Gonville and Caius.

The following gentlemen have been appointed examiners for medical degrees:—Physics: Professor Thomson, F.R.S., and Mr. L. R. Wilberforce. Chemistry: Professor Liveing, F.R.S., and Mr. Pattison Muir. Biology: Mr. A. Sedgwick, F.R.S., and Mr. A. E. Shipley. Pharmaceutical Chemistry: Mr. E. H. Acton and Mr. F. H. Neville. Physiology: Dr. Shore. Human Anatomy: Professor A. Macalister, F.R.S., and Dr. A. Thomson. Assessor to the Regius Professor of Physic: Dr. D. MacAlister.

UNIVERSITY OF EDINBURGH.—The following gentlemen received the degrees of M.B., C.M., on Oct. 14th:—

Anden, F. T., Shrewsbury.
Ball, F. R. K., Edinburgh.
Banks, T. W., Edinburgh.
Braithwaite, E. A., Cumberland.
Bulteel, S. B. J., Devon.
Byl, P. G. Van der, Cape Colony.
Campbell, Dan., Lancashire.
Cathcart, G. C., Edinburgh.
Duncan, J. A. H., Inchture.
Evison, M. C., Lancaster.
Ferguson, R. S., Beamish.
Figgis, S. R., Brighton.
Fisher, F. D., Workington.
Fleming, Geo., Edinburgh.
Forbes, J. W., Dundee.
Foxcroft, F. W., Cheshire.
Gardiner, D. C., Essex.
Garth, H. C., Kennington.
Godber, W. E., Edinburgh.
Gomes, C. J., Demerara.
Guild, G. T., Newburgh.
Gwynn, E. R., Shifnal.
Hannay, H. H., Leamington.
Harry, W. B., Llanelly.
Knox, H. B., Kingston, Jamaica.
Khan, M. K., Hyderabad.
Legg, W. L., Scarborough.
McLeod, A. A., Greenock.
McNeill, Duncan, Edinburgh.
Melville, A. K., Edinburgh.
Morgan, C. A., Holywell, Flints.
Morgan, H. B. T., Carnarvon.
Morrison, D. S., Argyllshire.
Parry, E. R., Edinburgh.
Peart, S. P., Edinburgh.
Reed, J. L., Sydney, Australia.
Riseley, Stanley, Bristol.
Ross, A. F., Edinburgh.
Sharp, John, Boat of Garten.
Stewart, W. J. J., Lanark.
Symons, F. A., Halifax, N.S.
Thomas, F. M., Liverpool.
Thomson, F. M., Lasowade, N.B.
Thompson, A. G., Portobello, N.B.
Thyne, J. T., Edinburgh.
Tibbits, Hubert, Warwick.
Turton, F. R., Edinburgh.
Whyte, J. C., Edinburgh.
Yonge, E. S., N. Devon.

UNIVERSITY OF GLASGOW.—The following candidates have passed the Third Professional Examination for the Degrees of Bachelor of Medicine and Master of Surgery:

Including Pathology.—Wm. Henry Mason Alexander, Jas. Ebenezer Bow, Wm. Brodie Brodie, Wm. Mackenzie Brown, Archibald Prentice Campbell, David Birrell Campbell, Robert James Carroll, James Carslaw, M.A.; John Stanley Davies, M.A.; William Walton Don, Alexander Robert Ferguson, Robert Guy, James Blair Hartley, Æneas Henderson, Campbell Highet, Henry Edward Jones, Thomas Kirkwood, M.A.; Thomas Donald Laird, Hugh Lawrie, Hamilton Clelland Marr, James Moffat, James Donald Rae Monro, M.A.; John Morton, John Hardie MacArthur, Alex. Hutchison M'Cracken, John M'Donald, M.A.; George M'Feat, Malcolm Macnicol, M.A.; Alexander Stewart M'Pherson, W. M'Walter, Robt. Earle Newton, John Paterson, M.A.; W. John Richard, M.A.; Jas. Jenkins Robb, Archibald Robertson, M.A.; Jas. Andrew Robertson, Robt. Taylor, John Hammond Teacher, M.A.; Andrew Wauchope, Alex. White, Charles Wilson, William Semple Young.

Not including Pathology.—Peter Aitken, John Anderson, Chas. James Babes, John James Boyd, Forbes Brown, Geo. Burnside Buchanan, B.A. Cantab.; James William Moon Buick, William Campbell, John Joseph Carruthers, David Charters, Robinson Ruddock Coyle, John Crawford, John Cross, David Alexander Dewar, Archibald Smith Dick, William Duncan, William Fulton, Henry Niven Gardiner, Farquhar Gracie, Peter Napier Grant, Thomas Hamilton, John Lindsay Howie, Norman Stewart Jeffrey, George Lawson Kerr, William Anderson Kirkwood, Robert Alexander Edwards Lowry, David Ramsay Miller, Edward James Morris, Wm. M'Nivan Muat, James M'Kay, George M'Laughlan, Peter Carmichael MacRobert, Eugene Louis Pollonais, Robert Ramsay, Leonard Alfred Rowden, Thomas Leadbetter Shields, Alexander Robb Smith, James Smyth, Charles Stewart, George Nelson Turner, John Whitehouse, Thomas Wright, Alfred Alexander Young, M.A.; John Cameron Young.

ROYAL UNIVERSITY OF IRELAND.—The following candidates passed the Medical Degrees Examination:—

Upper Pass Division.—*R. K. Brown, G. S. Hart, M. McCann, *K. Maguire, *H. Morton, *P. T. O'Sullivan, J. Priestly, and *Wm. C. Sullivan. (Those marked with an asterisk may present themselves for the further examination for honours.)

Pass Division.—J. Ambrose, P. Bennett, J. J. Bourke, D. J. Collins, M. J. Costello, T. H. Donovan, R. Dudgeon, F. J. Dunne, G. W. Farley, Robt. J. Gordon, S. R. Haworth, E. Hogan, H. T. Heron, W. J. Hughes, J. Jamison, D. A. Leahy, Edward Montgomery, Timothy Murphy, Richard Torney, Michael Twomey, and Louis Wheeler.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.—The following office-bearers have been elected for the ensuing year:—President: J. M. Finny. Vice-President: Arthur Wynne Foot. Censors: A. W. Foot, A. V. Macan, J. Malony, G. P. Nugent. Additional Examiners: Medicine—H. C. Tweedy; Medical Jurisprudence and Hygiene—J. M. Redmond; Midwifery—Andrew Horne. Examiners for Licence to practise Midwifery: W. J. Smyly, Andrew Horne. Examiners under the Conjoint Scheme (not including Censors who also examine at 4th Prof.): Chemistry and Physics—H. T. Bewley, Edwin Lapper; Materia Medica and Pharmacy—F. J. B. Quinlan, G. Duffey; Physiology—John Purser; Medicine—E. Cosgrave, W. Beatty; Forensic Medicine and Hygiene—Joseph M. Redmond. Membership Examiners: (*a*) Clinical Medicine—A. W. Foot, G. Nugent; (*b*) Pathology—J. M. Purser. H. T. Bewley; (*c*) Practice of Medicine and Public Health—J. M. Redmond, John Malony. Examiners for Conjoint Diploma in State Medicine: State Medicine and Hygiene—F. J. Quinlan; Chemistry—F. Lapper; Meteorology—J. Moore; Engineering—A. Murray. Examiners in Preliminary Education: Languages—H. Bewley; Science—E. Cosgrave. College Representatives on Committee of Management: T. W. Grimshaw, J. Moore, Walter Smith. Representative on General Medical Council: L. Atthill. Registrar: J. Moore.

ST. VINCENT'S HOSPITAL, DUBLIN.—The following prizes have been awarded for the past session:—Senior Class: O'Farrell; Medal in Clinical Surgery, Patrick J. Heneghan; Third Year's Prize, Jas. P. Maxwell. Junior Classes: Junior Clinical Prize, James J. O'Donnell. Special Junior Prizes: Mr. McArdle's Prize (Junior Surgery), John R. O'Brien; Mr. Tobin's Prize (Bandaging), Constantine P. Hannan.

BRISTOL MEDICAL SCHOOL.—The annual dinner is announced to take place at the Montague Hotel, Kingsdown, on Saturday, Oct. 31st, at 7 P.M., J. Paul Bush, Esq., in the chair. Tickets may be obtained at the school.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The autumn general meeting of the Association will, we are informed, be held at the Holborn Restaurant at 6.30 P.M. on the 28th instant. On the same evening the Association will dine at the Holborn Restaurant, 7.30 P.M., Dr. Gilbart Smith, President, in the chair.

THE Duke of Edinburgh recently inspected the Royal Naval Hospital at Stonehouse, accompanied by Inspector-General Mortimer and other officers.

DR. MARRIOTT, M.R.C.P.Lond., and J.P., Leamington, who has relinquished practice there after thirty-four years in consequence of deranged health, was entertained at a complimentary dinner on the 14th inst. by the medical profession of the town and neighbourhood. Dr. Marriott has gone to reside at Reading, and has been appointed physician to the Royal Berks Hospital.

LITERARY INTELLIGENCE. — The publication is announced (by Hirschwald, Berlin) of a "Festschrift" in honour of Professor Virchow's seventieth birthday, under the title of "International Contributions to Scientific Medicine." The work is in three large volumes (costing 120 marks), of which the first is devoted to anatomy, physiology, and developmental disorders; the second to pathological anatomy; and the third to pathological etiology and clinical medicine. Each volume contains several monographs by well-known writers, including Israel, Waldeyer, His, Hertwig, Flemming, Bizzozero, Metchnikoff, Ziegler, Mosler, Nothnagel, Heiberg, Neumann, Eppinger, Bollinger, Bouchard, Hansen, Baumgarten, Marchiafava, v. Ziemssen, Leyden, Gerhardt, Senator, Stokvis, Rindfleisch, Jacoby, and H. C. Wood (New York), Sir James Paget, Sir Joseph Lister, Professor Horsley, and Dr. Semon (London).

DRAINAGE OF ST. BARTHOLOMEW'S HOSPITAL.—At a meeting of the City Commission of Sewers on Tuesday, Dr. Sedgwick Saunders, the medical officer of health, reported upon the plans submitted for the approval of the Commission for the drainage of St. Bartholomew's Hospital by the governors of that institution. He said it was very gratifying to find that the authorities intended to divide their drainage system into three sections, on precisely the plans suggested by him in his report. So far, therefore, as the general disposition of the sewage was concerned, the Commissioners might give the plans their cordial approval; but he thought the pipes to be used were in excess of present or future requirements, and might be reduced to one-third with advantage. He also took exception to the "manhole" arrangements, which he considered too far from the main drainage, and the junctions of the pipes ought to be made accessible. It was proposed to remove all the old brick sewers, and to fill in and make good the cavities, and this was a matter which should be specially insisted upon. The engineer (Colonel Haywood) also approved of the plans, and the Commissioners passed them as satisfactory, and requested Colonel Haywood to see that they were carried out, with the various modifications and suggestions which he and the medical officer had indicated.

CHARING-CROSS HOSPITAL STUDENTS' DINNER.—This annual dinner took place on Wednesday, Oct. 21st, at the Holborn Restaurant, the chair being taken by A. W. Orwin, M.D. The Chairman, in proposing the toast of the evening—that of the Medical School and Teaching Staff—said that the prosperity visible there was due to three causes—firstly, the liberality of the governors; secondly, the ability of the teaching staff; and thirdly, to the intelligence and assiduity of the students themselves. The Dean of the Medical School (Mr. Stanley Boyd, F.R.C.S.), in returning thanks, mentioned that the school had prospered greatly not only in quantity, but also in quality. The October entry comprised no fewer than 73 men, of whom 48 were general students, being 14 in excess of last year's numbers. While other hospitals had varied considerably, Charing-cross had been steadily increasing. The quality of the men had also improved in that a much larger number of them were taking the higher degrees. He referred to the cordial relations existing between the Charing-cross and Dental Hospitals, which he hoped would continue, even in the face of so formidable a rival as Guy's Hospital. He also thanked Mr. Juler and the staff of the Royal Westminster Ophthalmic Hospital for the trouble they had taken with their classes. The health of the chairman having been proposed by Dr. Dowse and briefly responded to, after a cordial vote of thanks to the hon. secretary, Mr. Herbert Baker, the proceedings terminated in a smoking concert.

A CENTENARIAN.—A farmer residing at Newtownards, named Kerr, died this week, aged 101 years.

THE SEAMEN'S HOSPITAL.—It is officially announced that the Mayor of Cardiff (Marquis of Bute) has contributed £100 to the funds of this hospital, and has also become an annual subscriber of fifty guineas.

THE SWANSEA WATER-SUPPLY.—On Wednesday last the Swansea Corporation decided to go to Parliament for permission to spend £230,000 on a new water scheme, the new source of supply being the watershed of the river Usk. Thus an estimated additional supply of 5,500,000 gallons a day would be obtained.

FOOTBALL CASUALITIES.—John Hagerty, a mill hand, aged twenty-one, of Leeds, was admitted last week to the Leeds General Infirmary suffering from a fractured "knee-pan," sustained whilst playing football.—In a football match last week between the Buckley Victoria and Aston Rangers, a man named Laidler, belonging to the latter team, had his leg broken.

UNQUALIFIED MEDICAL PRACTITIONERS IN BAVARIA. In 1890, 1170 persons were prosecuted for illegal practice, including chemists, midwives, &c. Of the whole number, 684 had no medical training, and belonged for the most part to the working classes. The number of chemists prosecuted was only thirty. They are much less prone than in England to overstep the limits of their function.

PRESENTATIONS.—Mr. John A. Ward, M.R.C.S., Resident Assistant Medical Superintendent, St. George's-in-the-East Workhouse and Infirmary, has been presented, on the occasion of his leaving to hold a similar official position at the Chelsea Infirmary, by the officials of the workhouse with an excellent laryngoscope, fitted in a case complete, a surgical pocket-knife, and a set of probes. At the same time the officers and staff of the infirmary presented him with a handsome Gladstone fitted toilet travelling bag and a case of cigars.—Mr. Ebenezer Teichelmann, L.R.C.P.Irel., M.R.C.S., medical officer of the workhouse, Springhill, Birmingham, has been presented by his fellow-officers, on his leaving England for Australia, and his forthcoming marriage, with a handsomely fitted liquor-case.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on October 20th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	204	47	1	63	..	315	442
North-Western Hospital	286	61	..	16	..	363	411
Western "	104	19	..	6	2	131	224
South-Western "	165	18	..	43	1	227	340
South-Eastern "	182	15	1	90	3	291	458
Northern "	318	37	..	28	...	383	460
Totals	1259	197	2	246	6	1710	2335

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ARTHUR, A. T., M.B., C.M. Aberd., has been appointed Parochial Medical Officer for Petercalter, Aberdeenshire.

BOOTH, J. MACKENZIE, M.A., M.D., C.M. Aberd., has been appointed Surgeon and Lecturer on Clinical Surgery to the Aberdeen Royal Infirmary, vice Dr. Hall, deceased.

CAMERON, J., L.R.C.S. Edin., has been appointed Parochial Medical Officer for Kinellar, Aberdeenshire.

CHRISTIE, J., M.R.C.S., has been appointed Parochial Medical Officer for Fintray, Aberdeenshire.

COLLUM, ARCHIE J., L.R.C.P., M.R.C.S., has been appointed Junior Demonstrator of Anatomy at the Charing-cross Hospital Medical School.

COOPER, C. D., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Assistant Medical Officer at the Infirmary of the Parish of St. Pancras.

COOPER, WM., M.D. Aberd., has been appointed Parochial Medical Officer for Newmachar, Aberdeenshire.

CREVIE, J., M.B., C.M. Aberd., has been appointed Parochial Medical Officer for Belhelvie, Aberdeenshire.

DREW, JOS. B., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Framlingham Sanitary District of the Plomesgate Union.

FOWLER, J. F., M.D., C.M. Aberd., has been appointed Parochial Medical Officer for Newhills (South Division), and part of Oldmachar south of the Don, Aberdeenshire.

GARDNER, R. A., M.B., C.M. Glasg., has been appointed House Surgeon to the Belfast Union Hospital.

HABGOOD, W., Second Assistant Medical Officer at Banstead Asylum, has been appointed Senior Assistant Medical Officer at the Kent County Asylum, Barming-heath, Maidstone.

HAROLD, JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed Demonstrator of Physiology at the Charing-cross Hospital Medical School.

HINSHELWOOD, JAS., M.A., M.D. Glasg., has been appointed Dispensary Physician to the Glasgow Western Infirmary.

HUDSON, A. R. R., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the North Widnes Sanitary District of the Prescot Union.

HUTCHINSON, CREIGHTON, M.D. Glasg., L.R.C.S. Edin., has been appointed Medical Officer for the South Widnes Sanitary District of the Prescot Union.

LAWSON, JAS., M.B., C.M. Aberd., has been appointed Parochial Medical Officer for Echt and Skene, Aberdeenshire.

MACDOUGALD, Mr., of Dundee, has been reappointed Public Analyst for the County of Perth.

MACKAY, J. D., M.B., C.M. Edin., has been reappointed Medical Officer of Health for the Lunesdale Rural Sanitary District of the Lunesdale Union.

MAVER, D., M.B., C.M. Aberd., has been appointed Parochial Medical Officer for Newhills (North Division) and Dyce, Aberdeenshire.

M'ILRAITH, CHAS. H., M.A., M.B., C.M. Glasg., has been appointed House Physician to the City of London Hospital for Diseases of the Chest, Victoria-park.

MCKELLAR, T. G., M.B., C.M., has been appointed Assistant House Surgeon to the Rotherham Hospital and Dispensary, vice R. Smith, resigned.

PASSMORE, W. E., L.S.A., has been appointed Assistant Medical Officer at the Infirmary of the Wandsworth and Clapham Union.

PETHICK, C. STUART, M.A. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Resident Medical Officer to the Royal Free Hospital, Gray's-inn-road, vice E. B. Waggett, resigned.

POOLE, K. W., M.B. Durh., L.R.C.P. Lond., has been appointed House Surgeon to the Cottage Hospital, Walsall.

RANNIE, R., M.B., C.M., D.P.H. Aberd., has been appointed Parochial Medical Officer for Drumoak, Aberdeenshire.

ROBB, A. GARDNER, M.B., B.Ch., has been appointed House Surgeon to the Belfast Union Hospital.

STIRLING, STEWART, M.D., F.R.C.S. Edin., has been appointed Lecturer on Diseases of the Skin to Surgeons' Hall Medical School, Edinburgh.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BERKS ASYLUM, Moulsford.—Second Assistant Medical Officer. Salary £100 a year, rising £10 annually up to £120, with furnished apartments, board, &c., and washing.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

CHARING-CROSS HOSPITAL, Strand, W.C.—Medical Registrar. Salary £40 per annum.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon for the Institution for two years. Salary to commence at £80 per annum, with residence and maintenance in the house.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician. (Apply to the Secretary, 24, Finsbury-circus, E.C.)

DENTAL HOSPITAL OF LONDON, Leicester-square.—Assistant Dental Surgeon.

DENTAL HOSPITAL OF LONDON, Leicester-square.—Dental Surgeon.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—House Physician. No salary. Board and lodging are provided.

GUY'S HOSPITAL, London.—Assistant Anæsthetist.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident Medical Officer. Salary £50 a year, with board and rooms.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—Medical Registrar and Pathologist for one year. Honorarium at the expiration of that term 50 guineas.

LIVERPOOL DISPENSARIES, Leith Offices, 34, Moorfields, Liverpool.—Assistant Surgeon. Salary £80 per annum, with apartments, board, and attendance.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—House Physician. Salary £50 per annum with board and apartments in the hospital.

NORTH LONDON CONSUMPTION HOSPITAL.—Resident Medical Officer. Honorarium £40 annually, with rooms, board, &c., in the hospital. (Apply to the Secretary, Office, 216, Tottenham-court-road, London, W.)

NORTH LONDON CONSUMPTION HOSPITAL, Hampstead and London.—Two Honorary Physicians. (Apply to the Secretary, at the Offices, 216, Tottenham-court-road, London.)

OWENS COLLEGE, Manchester.—Junior Demonstratorship in Anatomy. Annual stipend £100.

PADDINGTON INFIRMARY.—Resident Clinical Assistant. The emoluments are board, washing, and an honorarium of 12 guineas on completion of six months' satisfactory service. (Apply to the Medical Superintendent, 285, Harrow-road, W.)

QUEEN'S COLLEGES, Ireland.—Professorship of Chemistry in Queen's College, Galway. (Apply to the Under Secretary, Dublin Castle.)

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Physician.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—House Surgeon. Salary £100.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £65, board, lodging, and washing.

STOCKPORT INFIRMARY.—Assistant to the House Surgeon for six months. Board and residence provided.

WALSINGHAM UNION.—Medical Officer for the Raynham District of the Union. Salary as Medical Officer £38 per annum, exclusive of extra medical and vaccination fees. (Apply to the Clerk, Union House, Great Snoring.)

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary attached to the Hospital. Salary £60 per annum, with board, lodging, and washing.

WORSHIPFUL COMPANY OF IRONMONGERS, Sir Robert Geffery's Almshouses, Kingsland-road, E.—Medical Officer (non-resident) for their Almshouses. Annual salary £52 10s. (Apply to the Clerk, Ironmongers' Hall, Fenchurch-street, E.C.)

Births, Marriages, and Deaths.

BIRTHS.

GAINER.—On Oct. 18th, at Thrapston, Northamptonshire, the wife of Joseph W. Gainer, M.B. Edin., of a son.

LIVERMORE.—On Oct. 18th, at Holmwood, Stapleton-hall-road, Stroudgreen, the wife of William Livermore, M.R.C.S., L.R.C.P., of a son.

NICHOLSON.—On Oct. 16th, the wife of David Nicholson, M.D., Superintendent, State Asylum, Broadmoor, Berkshire, of a daughter.

SUPPLE.—On Oct. 4th, at Shaftesbury-road, Southsea, the wife of Surgeon Lieut.-Col. J. F. Supple, M.S., of a son.

VOIGT.—On Oct. 6th, at Southport (Lanc.), the wife of J. C. Voigt, M.D. Edin., and M.B., C.M., of a daughter.

MARRIAGES.

BIDEN—BIRCH.—On Oct. 15th, at Cratfield, Charles Walter Biden, L.R.C.P. Lond., M.R.C.S., of Laxfield, Suffolk, to Ellen, only daughter of the late Jeremiah Birch, of The Lodge, Cratfield, Suffolk.

DUMERGUE—GWYNN.—On Oct. 14th, at St. Margaret's, Westminster, Herbert Walter Dumergue, M.D., of Victoria-street, Westminster, son of the late Rev. W. S. Dumergue, Vicar of Fareham, to Jane Emily Osborn, second daughter of the late Rev. James Gwynn, M.A., formerly Rector of Queenstown.

FAWCETT—BROWNE.—On Oct. 15th, at St. Pancras Church, Herbert Fawcett, M.D., of Marmora House, Honor Oak, eldest son of the late B. Fawcett, Esq., of Weston-super-Mare, to Helen Grace, daughter of H. Junor Browne, Esq., J.P., of Melbourne, Australia.

GILLETT—DEANS.—On Oct. 15th, at the Parish Church, Leamington Spa, Jermyn Francis Gillett, M.B., second son of the late Rev. Edward Gillett, to Hilda Mary, elder daughter of John Deans, M.D.

HUBBARD — FERNIHOUGH. — On Oct. 14th, at the Parish Church, Wallasey, Cheshire, Daniel Lovett Hubbard M.B., of Lynton, N. Devon, to Margaret Mary (Daisy), eldest daughter of the late Edward Crudgington Fernihough, of Rock Ferry.

SCOTT—MORTIMER.—On Oct. 13th, at St. James's Church, Weybridge, Surrey, John Scott, M.D., of Bromley, Kent, son of the late Rev. J. Scott, M.A., Rector of Wisbeach, to Mary, eldest daughter of Wm. Mortimer, of Wilmshurst, Weybridge.

SIMSON—HUGHES.—On Oct. 17th, at the Parish Church, Clapham, Francis Taylor Simson, L.R.C.P., of Lavender-hill, S.W., to Fanny, second daughter of Thomas James Hughes, of Lavender-hill.

THOMAS—GLYN.—On Oct. 14th, at St. Gabriel's, Warwick-square, S.W., Augustus William Thomas, L.R.C.P., L.R.C.S. Edin., Swaffham, eldest son of F. J. Thomas, Esq., Swaffham, to Fanny Laura, younger daughter of the late Wm. Glyn, Esq., of Gloucester-street, S.W.

DEATHS.

BARKER.—On Oct. 19th, at Gloucester-place, Portman-square, Thomas Alfred Barker, M.D., F.R.C.P., second and only surviving son of the late Thomas Barker, Esq., of Ashford Hall, Derbyshire, aged 83.

MAUNSELL.—On Oct. 14th, at Wellington-crescent, Ramsgate, John Maunsell, M.D., M.R.C.S., of Salisbury House, Clapton-square, N.E., aged 40.

RITCHIE.—On board the *Rewa*, B.I.S.N., Surgeon-Major J. H. Ritchie, M.D., Senior Medical Officer, General Hospital, and Principal Medical College, Madras.

SMITH.—On Oct. 13th, at London, John Phin. Smith, M.D., formerly of Edinburgh, afterwards of Calcutta.

N.B.—A fee of 1s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, October 26.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.3C.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Mr. J. H. Morgan: Surgery of the Urinary System in Children.—Royal London Ophthalmic Hospital, Moorfields: 1 P.M., Mr. A. S. Morton: Affections of Eyelids.—Great Northern Central Hospital: 8 P.M., Dr. Galloway: Liver and Spleen.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Harrison Cripps: Two cases of Fibrous Stricture of the Colon diagnosed by Laparotomy and treated by Colotomy.—Mr. Herbert W. Allingham: On Fifty cases of Left Inguinal Colotomy, with remarks on their points of special interest.

Tuesday, October 27.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Jonathan Hutchinson: The Varieties of Psoriasis. Bethlem Hospital: 2 P.M., Dr. Theo. B. Hyslop: Mental Stupor.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. J. Wright Clarke: Details of Plumbers' Work.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. Raymond Johnson and Mr. George Murray: A case of Limited Lesion of certain Spinal Nerve-roots by Secondary Carcinoma of the Vertebræ and Dura Mater.—Dr. A. Haig: Uric Acid as a cause of High Arterial Tension, and its consequences.

Wednesday, October 28.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. C. Y. Biss: Pain in the Chest.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. S. Morton: Retinal Affections.

HUNTERIAN SOCIETY.—8 P.M. Dr. Jas. Galloway: On Cancerous Affections of the Peritoneum and other Serous Membranes, with demonstration of Specimens, Drawings, Micro-photographs, &c.—Mr. Jonathan Hutchinson, jun.: On Fatty Tumours in the Groin.—Dr. E. G. Gilbert: Some Remarks on Colds.—Mr. F. R. Humphreys: Notes of a case of Severe Renal Hæmorrhage after Parturition, with Phlegmasia Dolens later on.—Dr. Thos. Marshall: Note on the Infective Period in Scarlatina.

Thursday, October 29.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Abercrombie: Infant Feeding.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Charlton Bastian: Cases of Brain Disease.—London Throat Hospital, Great Portland-st.: 8 P.M., Mr. George Stoker: Glandular Diseases of the Nose and Naso-pharynx.

Friday, October 30.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. C. Y. Biss: Some Points in the Therapeutics of Chest Disease.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Anthrax and Malignant Œdema (Sections of Anthrax—Gram's Method).

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. Charles Jones: Scavenging, Disposal of Refuse and Sewage.

Saturday, October 31.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Theo. B. Hyslop: Dementia.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 22nd, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Oct. 16	29·55	S.W.	55	54	78	58	48	·40	Raining
,, 17	29·79	S.W.	48	45	97	60	44	·13	Bright
,, 18	30·06	S.W.	51	48	91	60	45	—	Cloudy
,, 19	29·48	S.W.	53	52	—	56	50	·13	Raining
,, 20	29·55	S.W.	50	49	80	57	48	31	Hazy
,, 21	29·21	S.W.	55	53	91	60	49	·08	Cloudy
,, 22	29·11	S.W.	53	51	—	54	50	·39	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

THE VIRCHOW FESTIVITIES.

WE have just received from our Berlin correspondent a lengthy account of the festivities which have accompanied the celebration of the seventieth birthday of Professor Virchow. We are compelled, however, by the pressure of other matter, to postpone the publication of our correspondent's communication on this interesting theme until next week.

Mr. F. Anderson is referred to a general notice at the head of this column.

Quæstor.—There is no special advantage for the purpose mentioned in administering the drug hypodermically rather than by the mouth; but if so given, the dose should be from a minim to two minims of the liquor.

CERTIFICATION IN LUNACY OF PRIVATE PATIENTS.

C. M. L. has two patients uncertified and, in his opinion, uncertifiable. He cannot take out a licence for his house, as by the Lunacy Act of 1890 it was provided that no new licences for licensed houses should be granted. As there appears to be a doubt in our correspondent's mind as to the (legal) sanity or insanity of his two patients, he would do well to call in an expert, whose opinion would be given as that of one who would not desire any pecuniary benefit by the detention of the patient. Should the case or cases be of a more difficult nature, "C. M. L." might make an appointment with one or more of the Commissioners in Lunacy (19, Whitehall-place), and take the patient or patients there with a relative, who will, if necessary, sign the petition for their reception, if they are to be received as boarders or under certificates. A medical man can usually only receive one insane patient (except under special circumstances). His house is not licensed, but he must receive the patient under the same certificates, petition, order, and statement as if he or she were sent to an asylum. He must also procure and keep up the statutory books. Our correspondent is reminded that at the present time, if his patients are insane, he is liable to an action being brought against him by the Commissioners for detaining patients illegally in his house. If the patients are uncertifiable, they can be detained of their own free will without certificates. A medical man can receive a dozen or more uncertifiable patients without certificates; but should one of them be insane, he is running a great risk in detaining him without informing the Commissioners of his doubts in the matter.

A MEDICAL MISSIONARY'S WORK IN CENTRAL ASIA.

THE following extract from the last report of Dr. Marx, the Moravian medical missionary who recently died in Ladakh, may interest many of our readers.

"Besides patients from Ladakh, numbers come from more remote regions. As usual, Baltis and people from Purig, eight to ten days' march west of Leh, patronised the hospital and dispensary extensively, and an unusual number of patients from Chinese and Russian Turkestan were attended to. Not unfrequently patients from a distance come and stay with friends until they are well again. Even Tibet proper has representatives. Just while I am writing there is quite a colony of Tibetans enlivening the hospital. They are the relatives of a man and woman, both operated on for cataract. They are professional acrobats, but their performances remind one of the twirling dervishes of Egypt. They migrate through a great deal of country in a short time, and may be of service in bringing patients to the hospital. I cannot but say that they are well-behaved, quiet, and decent people. Their dialect is very different from the Tibetan in use here. I also was permitted to have under treatment some of the rulers of the land. A member of the old nobility, poor now, but still respected, was operated on for cataract. His gratitude was unbounded, and when our brethren Heyde and Schreve passed through Gya, where he lives, he wanted to hug them because he was so happy at the result of my operation. The steward of one of the monasteries (Chemre) underwent the same treatment successfully. In autumn our Wazir, a really honest Oriental, and usually very civil and helpful to us, had an apoplectic seizure. He immediately sent for me, instead of his own physician, the native doctor. The attack was slight, and he soon improved. He also seemed to be very grateful for the benefit received. It was pitiful to see under what fear he constantly lived. He believed his house haunted because a former Wazir had burned some Tibetan religious books there. He moved from place to place, but found peace nowhere. At last he decided to leave Leh, and stay the winter in Kashmir. I advised him to take the New Testament with him, adding that he would find there what he wanted to give him rest. In May I went on my first itinerating tour down the river. On my return home I found Leh brimful with patients, all suffering from influenza. The strangers, Kashmiris, natives of India, and ourselves suffered most. The Ladakh people rather felt inclined to jeer at our wretchedness."

BACK-TO-BACK HOUSES.

Non-medical.—We fear that the illegality referred to in the metropolis only applies to new houses on sites hitherto unoccupied. But the dissimilarity between London and Leeds lies in the circumstance that for London the provisions of a special Building Act are in operation, whereas in Leeds the matter would be controlled by by-laws, except in so far as the existence of any local Act may hinder the adoption of adequate by-laws made under the Public Health Act, 1875, as to sufficiency of space about domestic buildings.

Mr. John Vickers (Barrow-in-Furness).—The report has been received, and will be published in an early number.

Dr. Rentoul.—Our correspondent's letter, inserted last week, sufficiently indicated his views with regard to the scope of the services he deemed to be required of the direct representatives on the Medical Council.

Beta.—The report referred to in our correspondent's letter was not enclosed. We are consequently unable to answer the question propounded.

"THE ETHICS OF THE PROFESSION."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 17th I see a letter signed "M.R.C.S.," in which he condemns, very properly, the practice some medical men are adopting of announcing their return to town from their annual holiday in one or other of the daily papers, the full address of these gentlemen being carefully given. But it seems to me that this ingenious way of advertising pales before the following. I have before me copies of the —— and —— periodicals. In the —— I see full portraits of —— and ——, and they are depicted in three or four different stages of their lives. In the charming innocence of youth, in budding adolescence, and in full manly vigour, the reader will in these interesting stages have full opportunity of admiring them. In the —— there is the full portrait of ——, who, it states, is of considerable eminence as an obstetric physician. Unhappily for its readers, we only get one portrait as he at present exists, but to make up for it, after a full account of his medical career, the paper, with charming *naïveté*, describes the cut of his whiskers, the brightness of his eyes, and his bland and winning smile. It tells its readers that all these details are done without the knowledge or cognisance of the original, but to enable its readers to be guided in the selection of their advisers.

Now, I think if the College of Physicians and the different universities to which these men belong are too supine or neglectful to take notice of such puffing, the profession has come to a pretty pass. I hope you will publish this in your next issue, and let us hear what the profession generally thinks on the subject.

I am, Sirs, faithfully yours,

Oct. 19th, 1891. HENRY WATSON, M.D.

THE HOSPITAL SUNDAY FUND.

In our annotation of last week announcing that the Hospital Sunday Fund had reached the total sum of £45,300, an aggregate which exceeded by nearly £2500 the highest amount previously received, we alluded to the two collections which headed the list in point of magnitude. As a little inaccuracy arose in announcing the figures on that occasion, we take the present opportunity of remedying the oversight. Dean Forrest of St. Jude's, South Kensington, reported a total of £1300 (not of £1291 as we previously stated) being an advance of £43 over the highest previous year, and at St. Michael's, Chester-square (not Manchester-square), Canon Fleming collected £1200, being nearly £100 in excess of his previous collection.

J. M. B., who inquires what are the conditions under which he may receive into his house a mental case whose monetary affairs are locked up in Chancery, is referred to Section 12 of the Lunacy Act of 1890, applying to the reception of Chancery patients, which states: "A lunatic, so found by inquisition, may be received in an institution for lunatics, or as a single patient upon an order signed by the committee of the person of the lunatic, and having annexed thereto an office copy of the order appointing the committee, or, if no such committee has been appointed, upon an order signed by a master." It would be well for our correspondent to employ a solicitor in the matter.

M.B. should not wash his linen in public, but should settle such questions by private arrangement.

NASAL TABLOIDS.

To the Editors of THE LANCET.

SIRS,—The convenience of having drugs compressed into tabloids is one which is now well appreciated, but for the preparation of lotions to be used as douches or sprays for the nose and naso-pharynx I was unable a few months ago to find that any were manufactured. One firm I have since learned had made some attempt, but the insolubility of the preparation prevented its adoption. With the view of having prepared some tabloids which would readily disintegrate and be rapidly soluble even in cold water, I applied to Messrs. Burroughs, Wellcome, and Co., of Snow-hill, London, the originators, I believe, of this method of preparing drugs, and explained to them what I thought would meet a want. After a number of careful experiments they have been successful in producing tabloids which fulfil the desired conditions. So far only two combinations have been dealt with, but these are of substances in very general use, and if they meet with the approval of the profession other kinds can be manufactured. The first contains five grains each of bicarbonate and biborate of soda with half a grain of pure carbolic acid. No. 2 combines five grains each of chloride of sodium and borax. Solutions of various strengths may be made, and if a lotion of a more stimulating nature to that produced from No. 1 be required, a tabloid of No. 2 may be added. A decided advantage in the employment of these tabloids over lotions is that the solution is always fresh, whereas the lotion, if made some little time, is apt to undergo chemical change, and may even contain growths of a vegetable nature. These tabloids may also be employed for making gargles for the throat or mouth, and may be dissolved in either warm or cold water.

I am, Sirs, yours truly,

Devonshire-street, W., Oct., 1891. FRANCIS J. ALLAN, M.D.

ATTENDANCE AT SCOTCH BURGH COURTS AND THE POLICE AND MEDICAL AID.

To the Editors of THE LANCET.

DEAR SIRS,—If you can spare me a little of your valuable space I should like to give my experience in somewhat similar circumstances to those recorded under the above heading. Several years ago I was deputed by an English Bench of Magistrates to examine a female, and afterwards give evidence before them as to her condition. Having performed my task I asked the clerk for my fee, and was surprised to hear that the Court very much regretted that there was no fund from which I could be paid. I was further informed that if I had stated my claim previously to giving evidence, or if there had been a conviction, the money would have been forthcoming. I was then young in practice, and that experience has been useful to me since. In street cases I invariably ask the policeman if he wishes for my services before touching the patient. If his reply be in the affirmative, I examine the case, advise removal or otherwise, give my card, and tell the constable to send the formal order to my address, and it comes as a matter of course, generally on the following day. Whatever the nature of the case, the payment does not vary. It is 3s. 6d. for day, and 7s. 6d. for night calls.

I am, Sirs, yours truly,

Addison-terrace, W., Oct. 21st, 1891. A. E. BARRETT

CASE FOR A CHARITABLE INSTITUTION.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me through the medium of your columns whether there is any charitable institution where a medical practitioner who has lost the use of his sight (neuro-retinitis), and who is in a very nervous, depressed condition, can be placed? His wife and family are not in a position to maintain him privately, but would be glad to give some remuneration towards his support. I shall be very grateful if any of your readers can assist me.

I am, Sirs, yours faithfully,

Oct. 20th, 1891. PERPLEXED.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Auld, Glasgow; Dr. F. P. Atkinson, Surbiton; Mr. Andrew, Stockport; Messrs. Beal and Sons, Brighton; Mr. Blake, Bournemouth; Mr. Birchall, Liverpool; Col. Bolton, Sidmouth; Mr. W. H. Bennett, London; Mr. Biddle, London; Mr. Butcher, Birkenhead; Dr. Bassett, Birmingham; Mr. Bunton, Galway; Mr. Blackett, London; Dr. Brooke, Oxford; Mr. A. Buchan, London; Mr. A. E. Barrett, London; Mr. J. P. Bush, Clifton; Crossley, Moore, and Co., London; Carnrick and Co., Bloomsbury; Mrs. Clark, London; Dr. Campbell, London; Dr. Charteris, Glasgow; Mr. Cheatle, London; Mr. Caddy, London; Mr. Campbell, Southampton; Dr. Davies, Newbridge; Mr. Davis, London; Dr. De Renzy, Flamboro'; Mr. Deane, Lincoln; Mr. Duke, Dublin; Mr. Douty, Wallingford; Mr. P. De Santé, Burgh; Dr. Dickinson, London; Emmison Bros., Manchester; Messrs. Eason and Son, Dublin; Mr. P. Edgeton, London; Dr. J. Ewart, Brighton; Mr. Foy, Dublin; Mr. Forshaw, Smalley; Dr. Hingston Fox, London; Messrs. Farmer, Lane, and Co.; Mr. Gregson, Southend; Mr. Gill, Liverpool; Mr. Hyde, London; Mr. Heywood, Manchester; Mr. Harold, London; Dr. Horrocks, London; Messrs. Herbert and Co., London; Dr. Harris, Manchester; Dr. Hussey, Brighton; Mr. Hawkins-Ambler, Clifton; Messrs. Hooper and Co., London; Mr. Hopkins, Swansea; Mr. Jollye, Alresford; Mr. G. R. Jessie, Henbury; Mr. Lockwood, London; Dr. Lawrie, Weymouth; Messrs. Livingstone, Edinburgh; Mr. F. Little, London; Leader and Sons, Sheffield; Miss Manning, Torquay; Mr. Monks, New York; Mr. Mackenzie, London; Mackie and Co., Warrington; Dr. Maxwell, Woolwich; Mertens and Co., London; Mr. Molanier, France; Dr. McDougall, Arin; Mr. M'Cormack, Edinburgh; Mr. G. V. Miller, Middlesbro'; Dr. McKendrick, Glasgow; Mr. P. B. Mason, Burton-on-Trent; Oliver and Boyd, Edinburgh; Orridge and Co., London; Pettingill and Co., Boston, U.S.A.; Dr. J. C. Pearson, Stockenstrom; Mons. Poulalion, Paris; Dr. F. C. Palmer, Woking; Mr. J. R. Philpotts, Parkstone; Mr. Pernet, Hampstead; Mr. D'Arcy Power, London; Mr. A. Roche, Dublin; Richardson and Co., Liverpool; Messrs. Reynolds and Branson, Leeds; Baroness von Roemer, Battle; Dr. Swanson, York; Dr. Steele, Florence; Mr. Shaw, Inverness; Mr. Stidin, Dundee; Messrs. Little and Farmer, Ulverston; Dr. Sang, Dundee; Messrs. Stern, London; Dr. Skrimshire, Blaenarvon; Sir W. Savory, London; Dr. H. Sutherland, Brighton; Mr. Spring, Grimsby; Dr. F. J. F. Sykes, London; Mr. Sherring, Manchester; Mr. H. Sewill, London; Mr. Sers, Epperstone; Mr. F. Smith; Mr. Tomkins, Leicester; Mrs. Turner, Holloway; Mr. Lawson Tait, Birmingham; Dr. Stopford Taylor, Liverpool; Mr. Thies, London; Mr. R. H. Thwaite, Liverpool; Dr. J. T. Thompson, Cardiff; Dr. Urquhart, Perth; Mr. J. Vickers, Barrow; Mrs. Williams; Dr. H. Watson, Newbury; Mr. A. Wilson, Edinburgh; Dr. Whitwell, Menstone; Mr. Wilks, London; Mr. Watt, London; Dr. Warburton, Treherbert; Messrs. Wright, Dain, and Co., Birmingham; Dr. Ward, Oxford; Mr. Wood, Pontypool; Mr. Webb, Waterford; Dr. Webb, London; Mr. Wheeler, Fakenham; Yates, Liverpool; Dr. Zangger, Italy; Salvine Co., Ltd.; Vinton and Co., Ltd., London; Sheffield Public Hospital; Hon. Secretary, Weston-super-Mare; Sec., Holloway Sanatorium, Virginia Water; Salford Royal Hospital; Clifton College, Bristol; Secretary, Royal Hospital for Diseases of the Chest, London; Medical Superintendent, Paddington Infirmary; Hercules, London; Physician, Norwich; Sarcoma, London; Country Practice, London; Permanency, London; Omicron, London; Cantab., London; X., Preston; Cosmo, London; C. E. B.; Non-Medical; Questor; Beta; A Principal; O.; Chirurgeon; G. W.; Perplexed; D.; A. B. Z.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Appu, Bombay; Mr. Halford, sen., Tollington-park; Messrs. Richardson and Co., Leicester; Dr. Still, Loughborough; Mr. Nicholls, Bury St. Edmunds; Mr. Bryden, Shipley; Messrs. Wertheimer, Lea, and Co., London; Dr. Peacock, Staffs; Dr. Wilhelm, Cala, Cape of Good Hope; Dr. Rankin, Warwick; Mr. Steven, Dundee; Messrs. Blondeau et Cie., London; Mr. Humphreys, Montgomery; Messrs. Webster and Co., London; Mr. Lock, Tenby; Mr. Norris, Devizes; Dr. Cole, North Devon; Mr. Marriott, Rugby; Messrs. Lumleys; Mr. Thomas, Wickham Market; Mr. Tyte, Minchinhampton; Mr. Hume, Newcastle-on-Tyne; Mr. Williamson, Lincoln; Mr. Leibstein, Newark-on-Trent; Mr. Bush, Marshfield; Mr. Rainbird, Retford; Mr. Rambert, Saxilly; Mr. Lang, Somerset; Dr. Brooks, Moseley; Mr. Tully, Hastings; Mr. Nicholls, Wallingford; Mr. Hughes, Bournemouth; Dr. Scott, Manchester; Dr. Collins, Dunmow; Mr. Parry, Northampton; Mr. Roberts, Morecambe; Mr. Norman, Criccieth; Mrs. Kelly, Plymouth; Mr. Tasker, Sheffield; Mr. Campion, Northampton; Mr. Fawcett, Grantham; Mr. Wilson, Salford; Mr. Thin, Edinburgh; Mr. Grote, Folkestone; Mr. Todd, Selby; Mr. Nuttall, Leicester; Mrs. Hitch, St. Leonards-on-Sea; Mr. Clarke, London; Mr. Lorette, Paris; Mr. Barry, Box; Mr. Lang, Taunton; Mr. Heath, Cardiff; Mr. Hornibrook, Bloomsbury; Messrs. Kearney and Co., London; The Baroness von Roemer, Buxted; Mr. Mainwaring, West Kensington; Dr. De Renzy, Hull; Dr. Aitchison, Blackburn; Dr. Dicky, Colne; Dr. Huntley, Leatherhead; Dr. Jackson, Bradford; Stevens, London; Dr. Hanley; Surgeon, Stockwell; Medicus, London; Lancashire, London; Town Clerk, Croydon; Alpha, London; Sesaino, London; Secretary, Halifax Infirmary; Country, London; Cantab., London; Secretary, Farringdon General Dispensary; A. B. C., London; Medicus, Edinburgh; Leeds General Infirmary; D.P.H., London; Medico, London; Warneford Asylum, Oxford; B. B., Bevenden; M. M. C., London; Secretary, The Infirmary, Warrington; Secretary, Noble's General Hospital, Isle of Man; Queen's College, Birmingham; N., London; X. Y., Norwich; B., Finsbury; F. M. N., London; The Clerk, Calne Union; Ubique, London; Beech Hurst, Hanley; Forceps, Birmingham; E. P., London; Bonax, Kilburn; Sanitas, Worthing; Medicus, High Holborn; Beta, Edinburgh; Medicus, London; Medicus, Holland-park; X., Preston; D. F. C., London; M. J. D., London; M.D., Woolwich; D., London; X., London; B. H. E., London; T., Shepherd's-bush.

NEWSPAPERS.—*Bradford Observer, North British Daily Mail, Liverpool Daily Post, Manchester Guardian, Western Daily Mercury, Birmingham Daily Post, Newcastle Evening Chronicle, Leicester Daily Post, Leeds Mercury, Scottish Leader, Yorkshire Post, Bristol Mercury, Belfast Morning News, Dundee Advertiser, Glasgow Herald, Eastern Evening News, Hertfordshire Mercury, Windsor and Eton Gazette, West Middlesex Standard, Lincolnshire Chronicle, Reading Mercury, Local Government Chronicle, Torquay Times, Mining Journal, Weekly Free Press and Aberdeen Herald, Surrey Advertiser, City Press, Insurance Record, Sunday Times, Builder, Bread Arrow, Chemist and Druggist, West Middlesex Advertiser, Metropolitan, Spectator, Law Journal, Saturday Review, Pharmaceutical Journal, Windsor and Eton Express, Le Temps (Paris), Nottingham Evening News, Herald (London), Hereford Mercury, Liverpool Courier, Kent Messenger, Evening Express (Liverpool), Midland Free Press, Dartmouth Chronicle, Norfolk Standard, Pudsey District Advertiser, Yarmouth Gazette, Driffield Times, Architect, Trabalho e Direito,* &c., have been received.

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